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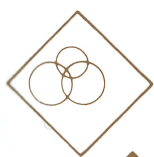
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"New Scholarship in Institutional Ethnography"

A special issue of the *Journal of Sociology and Social Welfare*

For this issue we are soliciting innovative work by new authors. We will feature those scholars and social activists who are relative newcomers with respect to publishing and whose work extends institutional ethnography by using novel approaches to data collection and analysis or that focuses on areas that have not been investigated previously. We hope to highlight the up and coming generation of IE practitioners and their work. Submissions should also be appropriate for JSSW, a journal that "promotes the understanding of social welfare by applying social science knowledge, methodology and technology to problems of social policy, politics, the social ecology, and social services." This includes a wide array of topics of interest to institutional ethnographers.

The deadline for submissions is January 31, 2014. Electronic copy can be sent to pluken@westga.edu. Please put "IE JSSW" in the subject line of your email. Submissions will be peer reviewed. Only submit material that has neither been published nor is being considered for publication elsewhere. Manuscripts should be prepared according to JSSW guidelines that are copied below.

Preparation

Articles should be typed in a 12 point font, double-spaced (including the abstract, indented material, footnotes, and references), with one inch margins on all sides. Tables may be submitted single-spaced. Please provide a running head and keywords with manuscript. Include tables and figures in the same document as the narrative. Keep identifying information out of the narrative. Put identifying information in a separate document with full contact information and any acknowledgments. Aim for approximately 18 pages, not counting tables and references. Avoid footnotes and endnotes if possible. Overall style should conform to that found in the Publication Manual of the American Psychological Association.

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Due to the level of response to this special issue,
the book review section will not appear in this issue.

Book reviews will return in the
March 2014 issue of the Journal.

JOURNAL OF SOCIOLOGY & SOCIAL WELFARE

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Redefining Social Welfare: Connections across Species

CHRISTINA RISLEY-CURTISS

Special Editor

A growing body of research supports the notion that human well-being is inextricably connected to the welfare of other animals. Social scientists are exploring these connections in research in social work and various subfields of sociology, including those focusing on the environment, deviance, the family, health, social inequality, and religion, as well as the emerging field of animals and society. This special issue taps researchers and theorists from several countries in a wide range of subfields in order to capture the breadth of the connections among species that affect all aspects of human well-being. This is a double issue, as we received such a large number of submissions that covered a variety of issues. The Humane Society University graciously helped subsidize the expansion of the issue to include the additional content. In addition, I need to thank the wide range of people all over the world who helped review manuscripts, despite their busy schedules.

The articles in this special issue cover a wide range of areas of interest, including:

- 1) socio-emotional connections between species, e.g., the role of companion animals across the life course and other related topics;
- 2) the connection of animal agriculture to climate change and environmental destruction, which is inextricably connected to human welfare;
- 3) health issues—the impact of consumption of animal products on health such as cardiovascular disease, diabetes, etc.—directly plus the impact of antibiotics and hormones fed to animals, as well as the impact of

pesticides and poisons and contaminants;

5) connections between animal abuse and interpersonal violence;

6) contributions of companion animals across the life course from childhood to older adulthood;

7) animals in sports and entertainment (hunting, zoos, circuses).

All of these issues are inextricably linked to human well-being. This is an opportunity to articulate the idea that animal welfare is inextricably connected to human welfare through all the ways that human and animal lives intersect.

Human Consequences of Animal Exploitation: Needs for Redefining Social Welfare

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This paper addresses an area which has not been given serious consideration in social welfare and social work literature, the instrumental use of nonhuman animals, in particular as food, and argues that the welfare of humans and other animals are intertwined. The paper examines the consequences of animal exploitation for humans in terms of health, well-being, environmental damage, and exploitation of vulnerable human groups. The paper concludes that a necessary redefinition of social welfare entails attention to these issues and the recognition that other animals have inherent value and their rights must be respected.

Key words: animals as food, animal exploitation, animal rights, Human-Animal relationships, social welfare, factory farming

The concept of social welfare has evolved and is in flux (e.g., Graham, Swift, & Delaney, 2012). Originating from charity, social welfare is evolving from a residual model of welfare to a justice-based institutional model. Today it has shifted to a mixed-economy model of the welfare state where government plays a lesser role and there is greater involvement by the market economy and greater expectations of family (Taylor-Gooby, 2004). However, its focus on human needs has remained the same, as expressed in one definition: "collective action concerned with meeting basic human needs"

(Mishra, 1987, p. 151). The question we raise is: should social welfare be redefined to include other animals even if we retain its goal of meeting human needs?

While Animal Studies and the more politically-engaged Critical Animal Studies have gained ground in other academic disciplines, Ryan (2011) finds that social work remains fixed in its anthropocentric perspective and advocates for inclusion of other animals in a revised social work code of ethics. Numerous works link violence towards other animals and humans (e.g., Becker & French, 2004; Boat, 2002) and recognize positive/therapeutic values of other animals to humans (e.g., Lutwack-Bloom, Wijewickrama, & Smith, 2005). Social work scholars have urged further research on animal-human bonds as a basis for practice (Risley-Curtiss et al., 2006) and in education (Tedeschi, Fitchett, & Molitor, 2006), but work with an explicit animal rights perspective is sparse. Literature on social welfare and other animals is even more limited. A database search on social welfare and animals yields little relevant work. Lack of attention to other animals misses important dimensions, overlooking direct links between the exploitation of animals and human problems. In social work literature, other animals are considered for utilitarian purposes (e.g., therapeutic aids or indicators for violence against humans), yet their instrumental use (e.g., food, experimentation) is not seriously questioned. Since few works address social welfare and exploitation of other animals for food, this paper opens an examination of connections between exploitation of other animals with that of humans.

The main function of social welfare in capitalist societies has been considered as the allocation of resources that otherwise does not happen if left to a market economy alone (Gilbert, 1985). Key values in social welfare in such allocation are fairness and equality to achieve social justice (Taylor-Gooby, 2004). These values are congruent with an anti-oppressive approach. In Canada, this approach is the core of social work practice, providing a basis for understanding social welfare from a critical structural perspective. Key aspects of an anti-oppressive approach involve paying particular attention to structural oppression based on hierarchies of gender, racialization, class, ethnicity, age, (dis)abilities, sexual identities and others, and reflecting on power/control in analysis (Healy, 2000; Mullaly,

1997; Taylor & White, 2000). Considering intersectionality of oppression is also important for this approach. We will incorporate this in our examination of human relationships with other animals and social welfare.

Ethical debates on relationships of humans and other animals have a long history, extending back to Pythagoras in 570 BC (Regan & Singer, 1989; Ryan, 2011). For our analysis, we contrast a modernist anthropocentric perspective that suggests we owe no direct duties to other animals but merely indirect ones to humans (Cochrane, 2010) and an anti-speciesist perspective. Speciesism is “a prejudice or attitude of bias in favor of the interests of members of one’s own species and against those of members of other species” (Singer, 2002, p. 6).

In general, two perspectives critique the unchecked human exploitation of other animals. A utilitarian view of animal welfare assumes it is legitimate to use other animals if it results in the greater good and certain standards of treatment are observed (Singer, 2002; Webster, 2005). Animal rights philosophy, on the other hand, asserts that other beings are not ours to use for food, clothing, entertainment, or experimental objects, but that other animals have their own inherent value, recognizing the sentience of other forms of life, and rejects a view of animals as property and their instrumental use. Animals have rights to not be exploited and subjected to suffering (Francione, 2000, 2003; Haynes, 2008; Sorenson, 2010). Both perspectives agree that animal exploitation has negative consequences for humans as well, which is exemplified by factory farming.

Raising Animals as Food: Factory Farms

Factory farming accounts for 43 percent of egg, 55 percent of pork and 72 percent of poultry production globally (Worldwatch, 2012). Animals in food industries are commodities. In order to maximize profit, their well-being is a concern only when it affects the products. The appalling treatment of animals in factory farming is well-documented (Davis, 2009; Mason & Finelli, 2006; Singer, 2002). For example, Canada’s factory farms cram 5-7 egg-laying chickens into 16” by 18” wire battery cages (Canadian Coalition for Farm Animals, 2005). Until they are killed, female pigs spend their lives being impregnated repeatedly and penned in two-foot wide metal

gestation crates, unable to move or lie down (Humane Society of the United States, 2012). Cows are held in:

barren, manure-filled feedlots containing up to 40,000 cows. They endure branding, castration, and dehorning without anesthetic. The feedlot air is so saturated with ammonia, methane, and other noxious chemicals from the build-up of feces that many of these cows suffer from chronic respiratory problems. (Chooseveg.ca, n.d.)

From an anthropocentric perspective, if such suffering stops with other animals, it does not concern human welfare and should not be considered in calls for collective action for social welfare. However, it is not only other animals who suffer because of the conditions in which they are produced.

Factory farms in the U.S. produce around 788,000 tons of manure daily (equivalent to nearly 3 tons of fecal matter each year per household), stored in solid piles or as liquefied excrement in open lagoons (Farm Sanctuary, 2011). Some is spread on cropland, but there is too much to be absorbed. Much of it is contaminated with heavy metals, pathogens, veterinary drugs, pesticides, antibiotics, and hormones, as well as parasites, viruses and bacteria. This causes significant surface and groundwater pollution and the spread of toxic algae that strangles aquatic life, along with other yet-unknown long-term consequences.

Impacts on human health include a variety of cancers, diabetes, hyperthyroidism, deformations of the central nervous system, and spontaneous abortions (Burkholder et al., 2007). Water pollution from manure and fertilizers is a primary cause of methaemoglobinaemia, the reduced ability of the blood to carry oxygen through the body, resulting in vomiting, diarrhea and lethargy and in serious cases, loss of consciousness, seizures and death, especially for infants (World Health Organization, n.d.). The Centers for Disease Control and Prevention (1990) reported “many” farm workers killed by hydrogen sulphide emissions from manure pits, citing 21 deaths from the previous decade. A judicial inquiry report concluded that an *E. coli* outbreak that killed seven people and poisoned 2,300 others in Walkerton, Ontario in May 2001 was

due to water pollution from manure runoff (CBC News, 2002). Contamination of Milwaukee's drinking water by manure from dairy cows caused a 1993 outbreak of cryptosporidium, which killed over 100 people and poisoned 403,000 (MacKenzie et al., 1994). "The total cost of outbreak-associated illness was \$96.2 million: \$31.7 million in medical costs and \$64.6 million in productivity losses" (Corso et al., 2003, p. 426).

Factory Farms and Antibiotics

Overcrowding highly-stressed animals in filthy conditions invites the spread of disease. To avoid this, agribusiness doses animals with antibiotics and is the second-largest user of antibiotics after the medical industry (Lancet, 2003; Singer et al., 2003). Industry regularly doses cows with antibiotics to keep them alive when raising them on corn, rather than the grass they naturally eat. A grain diet causes digestive problems, bloating and diarrhea, weakening the cows and making them more susceptible to disease; it also encourages development of *E. coli* bacteria, which is rampant in feedlots (Meristem Information Resources, 2004).

Agribusiness also uses antibiotics to promote rapid growth (Goodman, 2009; Hughes & Heritage, n.d.), as well as toxic drugs such as ractopamine, which are banned in the European Union, China, Taiwan and other countries, but are given to up to 80 percent of pigs in the U.S. (Bottemiller, 2012). Prolonged application of antibiotics in low doses encourages development of resistant bacteria, reported from the mid-twentieth century. Evidence shows that resistant bacteria can be transmitted from other animals to humans (Dibner & Richards, 2005). Clearly, antibiotic use must be restricted to reduce risks of selecting resistant bacteria. This is particularly significant, since antibiotics used to treat factory-farmed animals are vitally important for human medical use, and once resistance develops, few or no other effective treatments exist. Antibiotic resistance is recognized as a major public health concern. Sweden banned antimicrobial growth promoters in 1986; in 1998, the European Union banned four antibiotics (tylosin, spiramycin, bacitracin, and virginiamycin), and Denmark stopped using antibiotics as growth promoters in the same year. This created a "marked reduction" in resistance in enterococci bacteria in animal feces (Frimodt-Møller & Hammerum, 2002).

Along with increased human illness come treatment failures against resistant infections. For example, in Denmark resistant salmonella from contaminated pork caused the death of two patients treated with fluoroquinolones (Anderson, Nelson, Rossiter, & Frederick, 2003, p. 376). Most antibiotics were discovered decades ago and few new treatments have been developed, suggesting that untreatable diseases may increase and leading Marc Sprenger, Director of the European Centre for Disease Prevention and Control, to describe the need to halt the spread of antibiotic resistance as “critical” (Gilbert, 2011; Walsh, 2011). Annual costs of antibiotic-resistant bacteria in the U.S. are between \$1-30 billion “depending on the value of human life used” (McNamara & Miller, 2002, p. 1298). One example of such resistant “superbugs” is the development of methicillin-resistant *Staphylococcus aureus* (MRSA) that kills more people in the U.S. each year than the AIDS virus (Bancroft, 2007). A recent study of Iowa and Illinois pig farms found a 49 percent overall prevalence of MRSA (36 percent in adult pigs and 100 percent in pigs aged 9 to 12 weeks) (Smith et al., 2009). Margaret Chan, Director General of the World Health Organization, identified antimicrobial resistance as a major health problem, warning that a post-antibiotic era means “an end to modern medicine as we know it... Some sophisticated interventions, like hip replacements, organ transplants, cancer chemotherapy, and care of preterm infants, would become far more difficult or even too dangerous to undertake” (Chan, 2012, para. 29-30). Thus, consequences of exploitation of other animals in intensive agribusiness have become global welfare issues.

Factory Farms and Chemicals

In addition to feeding antibiotics to other animals, agribusiness corporations dose them with toxic substances to increase productivity (O'Brien et al., 2012; Ranallo 2012;). Pharmaceutical corporations sell arsenic compounds to the broiler chicken industry to increase animals' weight and improve the appearance of their flesh (Philpott, 2011). Of 8.7 billion broiler chickens killed annually in the U.S., 70 percent are fed arsenic (Wallinga, 2006). Humans ingest this poisonous substance by consuming their flesh but are also exposed to

other forms of contamination, since arsenic does not degrade but accumulates in the tens of billions of kilograms of waste produced by the industry. A study of one community located near factory farming operations found arsenic dust in 100 percent of households (Wallinga, 2006). Along with arsenic accumulations, factory farm waste contains concentrated bacteria and toxic chemicals, and waste lagoons emit gases such as ammonia, hydrogen sulfite and methane (Michigan Department of Environmental Quality, 2006; United States Environmental Protection Agency, 2001). Taxpayers subsidize the clearing of such contaminants (Union of Concerned Scientists, 2008). Not only people who consume animals, but communities near these industries face serious health, societal and economic consequences. Such consequences cannot be left to a market economy to adjust; rather, social welfare policies must protect individuals and communities and prevent violation of basic rights.

In 2008 the Pew Commission on Industrial Farm Animal Production's 2.5 year study in the U.S. found that factory farming created unacceptable dangers for human health and the environment and extensive suffering for other animals. The Commission also noted the industry's power to influence research and set the political agenda. The Union of Concerned Scientists presented similar conclusions in its study on Confined Animal Feeding Operations (i.e., factory farming) (Gurian-Sherman, 2008). An unhealthy atmosphere for other animals also poses health risks for human workers, who develop respiratory diseases. These problems also affect local communities in the forms of asthma and other respiratory problems (Marks, 2001), nausea, fatigue, depression (Humane Society of the United States, 2008), and neurological disorders (Lee, 2003). Noxious odors keep local residents inside their homes and disrupt their outdoor activities, making them feel that their living spaces have been violated and contributing to anxiety and depression. Controversy over factory farms splits communities as agribusiness targets vocal opponents and reduces community social capital (Donham et al., 2006).

Factory Farms and Climate Change

Impacts do not end at the local community level. The

livestock industry is a major producer of methane, a main greenhouse gas linked to climate change, and ammonia, a precursor to fine particulate matter, a significant environment-related public health threat in the U.S. (Shih, Burtraw, Palmer, & Siikamäki, 2006). Noting that a single cow produces about nine kilograms of smog-producing volatile organic compounds (more than a car or light truck), California government officials identified the state's dairy industry as a major air polluter and a consistent violator of environmental laws; New Zealand's 40 million sheep and 10 million cows contribute 43 percent of that country's greenhouse gas emissions (Owen, 2005). Globally, livestock production is responsible for 80 percent of greenhouse gas emissions from agriculture, 18 percent of greenhouse gas emissions from all human activities and 64 percent of ammonia emissions, which contribute to acid rain (Pachauri, 2008). Producing meat is more energy-consumptive than producing vegetables for consumption, requiring far higher amounts of water, at least 16 times as much fossil fuel, and producing 25 times as much carbon dioxide emissions (Pachauri, 2008).

Transporting, Slaughtering and Processing Animals for Food

Transporting animals is extremely stressful for them (Scientific Committee on Animal Health and Welfare, 2002). In Canada "it is not uncommon ... for these animals to be forced to stand or lie in their own waste in overcrowded conditions and endure extreme weather" without water and protection (World Society for the Protection of Animals, 2010, p. 4). The European Food Safety Authority discourages long-distance transportation of animals and the Food and Agriculture Organization of the United Nations (FAO) (2002) warns "modern animal transport systems are ideally suited for spreading disease," creating suffering for animals and increasing risks of transmission to humans (p. 19).

The global meat industry is dominated by giant corporations that have mechanized production and slaughter in industrial-scale operations processing billions of animals each year (Humane Society of the United States, 2008; Pew Commission, 2008). These institutions are nightmares for animals confined within, and are also dangerous for human workers who kill and process them (Eisnitz, 1997; Pachirat, 2011). Slaughterhouse

workers in the U.S. endure appalling conditions, and labor laws to protect workers typically go unenforced, since much of the workforce in the plants consists of undocumented foreign workers who are less likely to complain about conditions in which they work, for fear of deportation (Human Rights Watch, 2005). The imperative to kill as many animals as possible, as quickly as possible, puts workers under constant pressure to keep up line speeds; Rifkin (1992) notes such lines process up to 300 cattle per hour. Killing so many animals is exhausting, both physically and mentally. Workers complain that they do not even have time to sharpen their blades (Human Rights Watch, 2005), which means they must work with dull implements, increasing the danger to themselves and creating more pain for the animals they kill. Repetitive motions lead to stress injuries and chronic pain in hands, wrists, arms, shoulders and backs. The industry is dominated by corporate giants (e.g., Purdue, Tyson), which control all stages of production, processing, transportation and killing; most injuries go unreported in an anti-union context in which uninsured, poorly-paid workers endure dangerous working conditions (Walker, Rhubart-Berg, McKenzie, Kelling, & Lawrence, 2005; Winders & Nibert, 2004).

Anthropocentric critiques focus on improving labor conditions for humans alone. However, improvement cannot be attained without considering 'the objects' of the work. Ensuring quicker death for animals, for example, requires better-maintained implements, such as sharper blades or slower line speeds for processing. So, treatment of animals still must be considered in order to make meaningful changes to address human needs. However, while agribusiness lauds welfarists such as Temple Grandin for helping other animals, her slaughterhouse innovations contribute to greater efficiency and profitability and convey a kinder image, but do not address the structural violence that places other animals at the mercy of humans who regard them as commodities and lesser beings.

Examining these processes from an anti-speciesist perspective means applying the principle of equal consideration to both animals and workers. Some anti-speciesists consider killing permissible if it is done painlessly (Singer, 2002); Haynes (2008) calls them animal welfare reformists. From this perspective, the abovementioned situations are wrong, but if

practices are reformed to reduce pain for animals, they are acceptable. Such assumptions are questionable, at the very least: it is unlikely that killing can be accomplished painlessly (e.g., Davis, 2011), especially under conditions of industrial capitalism, and the production and consumption of meat do much to undermine the common good, as noted above. An anti-speciesist, animal rights perspective concludes that both well-being of other animals and human workers must be considered and advocates abolition of slaughtering. Regardless of the outcome for other animals, anti-speciesist perspectives direct us to include other animals' well-being when considering the well-being of humans.

Webster (2005), an animal welfarist but not an anti-speciesist, is concerned about the slow reform to more humane treatment of farmed animals and calls for immediate changes. Animals in the industrial food system endure miserable lives and gruesome deaths, with many regularly skinned or boiled alive (Warrick, 2001). Institutionalized brutality has psychological effects, and workers are regularly observed inflicting additional cruelties on animals they kill. For example, undercover video by groups such as Mercy For Animals shows workers kicking, punching and stabbing various animals for amusement. While some sadistic individuals may seek employment in slaughterhouses so they can indulge their taste for cruelty, other workers are brutalized by an inhumane system (Eisnitz, 1997; Equality and Human Rights Commission, 2010; Grandin, 1988). Demands of killing large numbers of animals on a rapid basis lead workers to quickly lose any appreciation of them as sentient beings who feel pain, seeing them instead as obstacles that interfere with the job, especially those who try to resist or escape.

Psychological consequences include Perpetration Induced Traumatic Stress, often manifested in alcohol and drug abuse, anxiety, depression, paranoia, disintegration and dissociation (Dillard, 2008). Other workers cope through a process of 'doubling,' in which those who carry out atrocities create a separate self to perform tasks their natural self regards as evil (Lifton, 1986). Slaughterhouse workers face a disconnect between their empathy for other forms of life and the disregard they display towards animals objectified as commodities; the psychological

impact of overcoming the aversion to killing is often expressed in outbursts of rage and sadistic attacks (Eisnitz, 1997). Not surprisingly, violence toward other animals is linked to violence toward humans, and areas in which slaughterhouses are located have higher rates of violent crime (Fitzgerald, Kalof, & Dietz, 2009). Significant relationships between violence against humans and against companion animals are well documented (Becker & French 2004; Boat, 2002). These studies indicate that both witnessing and inflicting cruelty to other animals have serious long-term psychological and behavioral negative impacts on people (Boat, 1995; Kellert & Felthous, 1985) and communities (Fitzgerald et al., 2009).

Animal exploitation also has negative societal moral consequences (Humane Society of the United States, 2008). There is widespread belief that one should not harm other animals “unnecessarily,” and even industries that are based upon mass killing of animals invoke ritual expressions of concern for “animal welfare” (e.g., McDonald’s, n.d.). People who eat meat must somehow reconcile their behavior with their expressed sentiments. One strategy is to reject the idea that other animals deserve moral consideration and to deny that they have sentience and the ability to suffer (Loughnan, Haslam & Bastian, 2010). Those with power over other humans use similar distancing techniques to legitimize racism and genocide, portraying those they victimize as less worthy and less capable of feeling (Patterson, 2002). Denial of the moral status of other animals is identified as a model for human slavery and genocide and with the exploitation of women (Nibert, 2002, 2013). Recognizing such intersectionalities suggests that addressing other animals’ interests is necessary for challenging the exploitation and oppression of humans (Nocella, Sorenson, Socha & Matsuoka, 2013).

Looked at from either an anthropocentric or anti-specie-sist perspective, such evidence helps us see the importance of inclusion of other animals in addressing violence, abuse and cruelty in society. Ignoring well-being of other animals and their rights not to be mistreated in agribusiness reinforces the grounds for violence, which is one of the essential conditions of oppression (Young, 1990). Considering social welfare from an anti-oppressive approach, such parallel oppressions need

to be examined. The same profit-driven impetus that creates the brutal conditions of mass transportation, slaughtering and processing of animals is responsible for dangerous labor environments for workers, whose senses of compassion and empathy are numbed by the atrocities they inflict on other sentient beings. This is exploitation and oppression of the working class through institutionalized exploitation and oppression of other animals. Exploitation of other animals is closely linked with threats to healthy, safe environments for workers and opportunities for people to access healthy food. Thus, examination of relationships with other animals must be taken seriously in deciding upon collective actions to meet human needs.

Consumption

Myers (1981) described how the developed world's "virtually insatiable demand for beef" destroyed Central America's forests, a process he termed "one of the greatest biological debacles to occur on the face of the earth" (p. 3). Myers found that the annual demand for beef in 1976 was 61 kilos per person in the U.S., up from 38.7 kilos in 1960. By 2006, this had fallen to 43.8 kilos per person, but it was accompanied by consumption of 29.6 kilos of pork, 46.5 kilos of "broiler meat" and 7.4 kilos of turkey per person (United States Department of Agriculture [USDA], 2006). However, these changes in diet are not necessarily a healthy development, as meat consumption is associated with obesity (Wang & Beydoun, 2009), now recognized as an epidemic health problem.

A 2011 Gallup-Healthways survey found that 62.1 percent of Americans were obese or overweight, noting that obesity was most common among low-income, African-American and middle-aged people (Mendes, 2012). Social determinants of health and meat consumption need to be explored. However, meat consumption is encouraged by extensive advertising from meat and fast food industries; for example, McDonald's annual advertising budget alone is "about \$2 billion" (Dow Jones Newswires, 2010), and much of this is aimed at children. Considering that unsanitary conditions in factory farms and slaughterhouses encourage the spread of disease to human consumers, this is alarming. In the U.S., costs associated with salmonella alone are about \$2.5 billion per year (Gurian-Sherman, 2008).

Consumption of meat itself creates health issues. Researchers have detected links between meat consumption and colon cancer (Chao et al., 2005). Consumption of animal fat is linked with increased breast, colon, ovary and prostate cancer (Rose, Boyar, & Wynder, 1986). A study of over a half-million people concluded that consumption of red and processed meats is linked with increased deaths from cancer and heart disease (Sinha, Cross, Graubard, Leitzman, & Schatzkin, 2009). A recent Swedish study of 40,291 men aged between 45-79 years with no history of cardiovascular disease or cancer found that red meat consumption was positively associated with the risk of stroke (Larsson, Virtamo, & Wolk, 2011). A 2003 meta-analysis of all papers published to that date found increased risk of breast cancer related to meat consumption (Boyd et al., 2003). Red meat is linked with diabetes (Pan et al., 2011), and red and processed meat consumption particularly increases women's risk of developing type 2 diabetes (Song, Manson, Buring, & Simin, 2004). Medical costs of treating these meat-linked diseases and conditions are enormous. One study estimated U.S. health care costs directly attributable to meat consumption in 1992 at \$28.6 – 61.4 billion (Barnard, Nicholson, & Howard, 1995). However, in 2009, *Time* magazine cited U.S. medical costs of obesity alone at \$147 billion per year (Walsh, 2009). Meat consumption is linked to ill health and high costs for health care. Debates over rising health care costs often overlook this link. Even looking at benefits to humans alone, reducing consumption and changes in diet eases costs and suffering. While anthropocentric social welfare may stop at recommending education for better diets, anti-speciesists link collective actions for beneficial dietary changes with acknowledgement of continuities between human and other individuals. Both perspectives recognize that institutionalized commercial exploitation of animals for food has direct consequences for human welfare and support importance of inclusion of other animals in analysis.

Globally, increased meat consumption creates further destruction and oppression. The FAOUN (2006) outlined the devastating impact of the global livestock industry. Expansion of livestock production is a direct cause of deforestation, especially in Latin America, where 70 percent of previously-forested land is now pasture for cattle. In Brazil, a few wealthy

landowners clear huge swathes of the Amazon rainforest to create pasture. The Center for International Forestry Research noted a “frightening” increase in deforestation accompanying the growing demand, largely from the U.S., for Brazilian beef, describing “phenomenal” expansion of cattle-ranching operations (doubling in size to 57 million animals in 2002), with 80 percent of this increase in the Amazon, where deforestation “skyrocketed” (Kaimowitz, Mertens, Wunder, & Pacheco, 2004, p. 1).

Growing consumption also affected human populations. The ranching industry is linked with violent expulsion of peasants and indigenous peoples (Bunker, 1990; Margulis, 2003; Survival International, 2011). Groups such as Human Rights Watch (2008) consistently have reported on human rights violations, especially concerning indigenous people, in Latin America, where wealthy ranchers expand their estates by hiring gunmen to murder political opponents. Anti-Slavery International has reported on the enslavement of indigenous people on private ranches in Bolivia and Brazil (Sharma, 2006a, 2006b). Displacement and enslavement of indigenous people and other vulnerable populations, such as peasants and small farmers in Latin America, is facilitated by state policies “fueled by such U.S.- controlled institutions as the World Bank and the International Monetary Fund ... in order to increase export revenues” (Winders & Nibert, 2004, p. 90). Exploitation of animals comes back full circle as threats to the well-being of vulnerable people: exploitation, marginalization and powerlessness.

As demand for cheap meat and dairy grows, so does the increasingly concentrated ownership of meat, egg and dairy industries. This affects the economic and social quality of human life and social justice. In the U.S. for example, “in 1996, 57 million pigs were distributed among one million farms; in 2001 these same 57 million pigs were raised on 80,000 farms, and over half were raised in just 5000 facilities” (Walker et al., 2005, p. 351). Rapid growth of factory farms for more profitability has displaced small farms, disrupted social and economic systems, increased unemployment and lowered the value of homes and real estate located nearby (Gomez & Zhang, 2000). One study of corporate hog farming in Oklahoma found that Seaboard Farms’ stockholders profited from arrangements

in which taxpayers funded subsidies, interest-free loans, tax reductions and exemptions and provision of infrastructure. Meanwhile, environmental impacts included problems with waste disposal, odors, and deteriorating water quality. Social problems were related to an influx of new workers seeking low-waged jobs and requiring new schools and housing, increased crime and school dropout rates and the breakdown of social relations (North Central Regional Center for Rural Development, n.d.). Concentration of processing business weakened labor unions by de-skilling work and moving slaughterhouses to rural areas where unions are not supported and low wages and poor working conditions receive little resistance (Winders & Nibert, 2004). Concentrated ownership for greater exploitation of other animals results in further exploitation of workers and communities. Thus "what happens to animals is deeply intertwined with what happens to people" (Birke, 2007, p. 306).

Consuming other animals as food reinforces patriarchy and sexual oppression (Adams, 2000; Grauerhols, 2007). Consumption of meat is gendered in the Western world, and beef-eating, in particular, symbolizes manliness and male dominance (Rifkin, 1992). Calvo (2008) argues that institutionalized exploitation of other animals for meat is "shaped by relations of capital and patriarchy" (p. 43) where mainly female animals are bred to produce "feminized protein" (p. 38) (eggs from hens, milk from cows and, at the end, the flesh of female bodies) using forced reproduction to maximize profit. Feminists argue that unchecked mistreatment of animals for food perpetuates patriarchy (Gruen, 2007). This suggests that since eradicating patriarchy is essential for achieving social justice, an examination of gender relations and patriarchy beyond human needs must be incorporated in social welfare analyses.

Consumption of animals is also linked to food shortages and hunger (Brown et al., 2001; Walker et al., 2005). As the 21st Century began, 1.1 billion people were undernourished and underweight and an additional 1.3 billion were poor and hungry (Brown et al., 2001). However, Kul C. Gautam, UNICEF Deputy Executive Director, notes that we produce enough food for all, and that hunger and malnutrition are "consequences

of poverty, inequality and misplaced priorities" (UNICEF, 2007, p. 30). For example, a third of the world's cereals and 90 percent of soybeans are used for animal feed, despite the fact that this is a highly inefficient system (Pachauri, 2008). Whereas one hectare (2.2471 acres) of land could produce enough vegetables, fruits and cereals to feed thirty people, the same area could only feed between five and ten people with meat, eggs and milk (Pimentel & Pimentel, 2003). Brown et al. (2001) call for "restructuring the protein economy" (p. 55) and Walker et al. (2005) argue the importance of examining meat production in relation to public health concerns. Even if considering human welfare alone, examining consumption of other animals for food holds the key to responding to these serious issues: hunger, poverty, inequality and misplaced priorities.

Intersectionality

These findings show close relationships between exploitation of other animals and negative impacts on humans, with significant social costs. Raising animals for food under intensive agribusiness not only causes suffering for them, but creates inhumane environments for workers and presents serious threats to their health and to those in nearby communities. Negative economic impacts appear in productivity losses and medical care costs. Addressing human needs alone does not solve these situations. Examples presented here demonstrate the need to address situations of other animals to improve human health and social and economic welfare.

Even from an anthropocentric perspective that recognizes no direct duties owed to other animals, the impact of raising them for food in intensive agribusiness is serious enough to warrant considering their welfare, since these practices gravely affect not only their lives, but also those of humans, at local and global levels. An anti-speciesist perspective obliges us to introduce the principle of equal consideration of other animals. This refers to "the rule that we must treat likes alike ... if humans and animals do have a similar interest, we must treat that interest in the same way unless there is a good reason for not doing so" (Francione, 2000, pp. xxv-xxvi). In assessing these situations, since all animals have a similar interest, e.g., not being confined and living in contaminated environments, the conditions in which they are raised do not reflect these

individuals' interests. This leads us to suggest that society's welfare cannot be achieved without considering the interests of other animals.

Conclusion

An estimated 56.5 billion animals worldwide were killed for food in 2007 (Compassion in World Farming, 2009). Increased demand for meat means this number will grow. Looking at the process of using other animals for food, one sees that every step, from raising, transporting, slaughtering, processing and consuming them, has serious negative impacts on human health and the physical and social economic environment. Concomitant with institutionalized animal exploitation is exploitation of workers, and oppression of women and indigenous peoples. Health care costs incurred by workers and communities as consequences of pollution and deforestation are "excluded from the pricing system for cheap meat" (Walker et al., 2005, p. 353). In other words, unless we include industrialized institutional animal exploitation into analysis of social welfare, we will not recognize the full costs, which are serious and growing. As we have observed here, our relations with animals are intertwined with issues of social welfare such as exploitation, oppression, inequality and poverty. An animal rights perspective argues that animals have rights not to suffer, be exploited, subjected to violence or killed. Thus, inhumane use must be addressed in itself. Exploitation and violence are conditions of oppression (Young, 1990). This anti-speciesist, anti-oppressive view, however, allows the abovementioned concomitant sites of intersectionality of oppression to be investigated further to achieve goals of social justice and social welfare.

Returning to our question, "should social welfare be re-defined to include other animals even if we retain its goal of meeting human needs?" we respond that the goals cannot be achieved without considering relationships with other animals, thus we need to redefine social welfare to include other animals in its analysis. We strongly encourage social workers, social welfare scholars, policy makers and frontline professionals to reflect on animal rights in the everyday injustices we try to eradicate. At the same time, education in social work and other social welfare-related fields should address

structural issues concerning systemic oppression of nonhuman animals by recognizing them as sentient beings with inherent value and rights. As people become more aware of relationships with other animals, the relevance of such relationships to social welfare becomes more apparent. To continue this debate, further research on social welfare that considers human relationships with other animals should be encouraged.

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The Impact of Companion Animals on Social Capital and Community Violence: Setting Research, Policy and Program Agendas

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The term social capital has been used to describe the networks and other forces that build social cohesion, personal investment, reciprocity, civic engagement, and interpersonal trust among residents in a community. With the exception of three Australian reports describing positive associations between companion animal ownership and social capital, the literature has neglected to include the presence or absence of companion animal residents of communities as factors that could potentially affect social capital and serve as protective factors for community well-being. Companion animals are present in significantly large numbers in most communities, where they have considerable economic impact and provide emotional and physiologic health benefits and social support to their owners. Companion animals may mitigate the stresses of urban living and counteract what has been called "nature-deficit disorder." Conversely, they may also be the victims of cruelty, abuse and neglect which can adversely affect the quality of life and social capital of a community. Efforts to measure the impact of companion animals on social capital are constrained by a lack of accurate data on companion animal populations and by gaps in our knowledge of attitudes toward companion animal ownership, particularly in communities of color. An agenda for research, public policy and programmatic activities to address these gaps is proposed to help determine whether the resilience and protective factors which companion animals can offer individuals extend to community populations as well.

Key words: social capital, companion animals, pets, program agendas, research, policy

In his mainstream book *Bowling Alone*, Putnam (2000) popularized and renewed academic and public interest in the

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concept of social capital, a term variously used by Coleman (1988), Bourdieu (1977), Jacobs (1961), Hanifan (1916), and others to describe the networks and other forces that build social cohesion, personal investment, reciprocity, civic engagement, and interpersonal trust among residents in a community. Social capital (as contrasted with human capital, economic capital, cultural capital, technological capital, or other resources of a community) is the connectivity among people which enhances cooperation for mutual benefit. Social capital promotes social, economic and physical well-being as a result of trusting, supportive relationships among residents.

Putnam's descriptions of social and technological forces that disengage Americans from societal institutions and relationships were matters of academic interest and were also embraced by civic leaders who sought practical keys to reducing civic erosion. His national lecture tours were sponsored by many community foundations seeking to improve community cohesiveness, political participation, neighborhood development, and civic engagement (e.g., Winston-Salem Foundation, 2005).

Notably absent in his study, or other social capital literature, were references to a significantly large population of residents found in most American communities, namely the companion animals that cohabit the human ecosystem. The failure to include animal populations is consistent with most social science literature, which generally denies any possibility that interactions with nonhuman animals could be considered relevant (Taylor, 2007). It has only been relatively recently that an ever-growing body of literature has begun to demonstrate the relevance of "what are often dismissed as insignificant (or even objectionable) relationships between humans and their pets" (Hurn, 2012, p. 99). Consequently, there are many gaps in our knowledge of how companion animals positively or negatively impact community well-being and whether they serve as exacerbating or protective factors against the deleterious effects of deterioration, crime and violence in distressed communities.

Quantitative Impact of Companion Animals on Communities

Companion animals represent a significant population whose impact can be measured in quantitative and economic terms, although the mechanisms to do so have been inadequate. Accounting for companion animals' qualitative impact is even more challenging.

Although the number of companion animals in American communities is very large, no exact figures are available, estimates vary greatly, and data collection and analysis on both the national and local levels are limited. The two most widely cited estimates come from the American Pet Products Association (APPA) and the American Veterinary Medical Association (AVMA). APPA (2012a) estimated that 62% of U.S. households, or 72.9 million homes, own a companion animal, creating a market of 86.4 million cats, 78.2 million dogs, 16.2 million birds, 13.0 million reptiles, 16.0 million small animals, and 159.7 million fish. AVMA (2012) estimated that 56.0% of households owned companion animals, putting the 2011 companion animal population at 74 million cats, 69.9 million dogs, 8.3 million birds, and 4.8 million horses. A U.S. Department of Agriculture comparison between the two organizations' past estimates notes discrepant ranges in companion animal populations from 177,882,000 to 203,991,000 (Dennison, 2010).

Even accounting for discrepancies between these estimates, based upon surveys having been taken in different years and utilizing different research methodologies, the APPA and AVMA figures reveal several intriguing commonalities. It would appear that the companion animal cat population of the U.S. is greater than the human population of all European nations, and that the companion animal dog population is greater than the number of humans in all European nations except Germany (Population Reference Bureau, 2010). It is notable that both estimates come from the private sector, largely to help guide marketing decisions for their respective industries, rather than from the public sector, as there are no government Census data that include animal populations.

While the APPA figures are solely national and regional estimates, AVMA also details companion animal populations by state. AVMA reported the lowest rates of companion

animal ownership to be in the densely populated, highly urbanized and multi-cultural New England and Middle Atlantic states; the highest rates are in more rural, and less ethnically diverse, Midwest and Mountain states. Rates of companion animal ownership decrease as the size of community increases (American Veterinary Medical Association, 2012). However, neither survey is broken out by the urban, suburban or rural nature of community composition, nor by specific ZIP Codes or Census tracts.

Economic Impact of Companion Animals on Communities

The economic impact of companion animals is significantly large. APPA (2012b) estimated that Americans spent \$50.96 billion in 2011 on pet food, supplies, veterinary care, medications, and services. If this figure is accurate, Americans' expenditures on their companion animals rank greater than the gross domestic product of all but 64 countries in the world and more than what is spent on movies, video games and recorded music combined; after consumer electronics, pet care is the fastest-growing category in retail (Brady & Palmeri, 2007).

Emotional Impact of Companion Animals on Communities

The potential for companion animals to affect individuals' and communities' quality of life and emotions is strong, though difficult to quantify. AVMA (2012) reported that 63.2% of households considered their pets to be family members and another 35.8% considered them companions.

Jalongo (2004) reported that for a majority of children and families, companion animals are an integral part of their lives, part of the construct of childhood and autobiographical memory, and powerful influences on children's overall development. Childhood bonds formed or broken with companion animals reverberate and resonate across the lifespan and are not pale imitations of bonds with human beings, but rather relationships that are important in their own right.

Growing interest in the attachments humans may feel for animals has led to the development of specialized interventions called animal-assisted therapy and animal-assisted activities that promote the physical, emotional and psychological health of individuals (Franklin, Emmison, Haraway, & Travers, 2007). Though animal-assisted interventions are currently best

described as a category of promising complementary practices that are still struggling to demonstrate their efficacy and validity (Kruger & Serpell, 2006), companion animals are widely cited as offering healthful opportunities for play and exercise, as psychological symbionts who help individuals cope with stress, and whose presence can reduce blood pressure, obesity and risk factors for cardiovascular diseases (Arkow, 2011).

A recurring theme in the literature is that companion animals are what Messent (1983, p. 37) first called “social lubricants” who facilitate social support and interpersonal communications (Garrity & Stallones, 1998). McNicholas et al. (2005) observed that companion animals may not convey measurable physical benefits as much as they contribute to owners’ quality of life, with animals serving as social catalysts providing a sense of social integration and enhanced interactions with other people that alleviate feelings of loneliness and isolation. Serpell (2010) said the concept of companion animals serving as sources of social support seems to offer a convincing explanation for the long-term benefits of animal companionship.

The mediatory capacity of companion animals to serve as social icebreakers and to enhance the social integration of their owners, however, is contingent on the culturally perceived value of the animal in question. Hurn (2012) observed that while a friendly dog can help alleviate social awkwardness, a dog perceived to be potentially dangerous will have the opposite effect. How vicious dogs, whose anti-social identity or reputation for fighting may make them desirable status symbols in certain cultures, affect interpersonal relationships in communities warrants further exploration.

Another strand of research and programs concerning companion animals’ qualitative impact on communities revolves around how criminal and morally objectionable acts of cruelty, abuse and neglect of animals damage societal norms and presage or indicate situations of domestic violence, child maltreatment or elder abuse (Merz-Perez & Heide, 2004). Much research into what is called “The Link” (Arkow & Lockwood, 2012) between animal abuse and interpersonal violence addresses the etiology of individual psychopathologies (Ascione, 2005). Lockwood (2008) described the deleterious effects of cruelty to animals in destabilizing communities but cautioned that the prevalence of animal abuse is nearly impossible

to measure due to challenges in reporting violence against animals.

Companion Animals as Contributors to Social Capital

The potential health benefits of companion animals and the links between animal cruelty and interpersonal violence have been studied primarily for their impact upon individuals as opposed to social groups. It was not until Wood, Giles-Corti & Bulsara (2005) surveyed residents of a suburb of Perth, Western Australia, that the role of companion animals in enhancing social capital was explored.

Wood et al. (2005) reported companion animal ownership to be positively associated with social capital, civic engagement, perceptions of neighborhood friendliness, and a sense of community. They reported that the social lubricant effect of companion animals was more than just interpersonal exchanges among people walking their dogs: the visible presence of people walking dogs and the impetus dogs provide for people to be outdoors and use park areas ameliorated negative mental health conditions and gave residents a feeling of greater collective safety and sense of community. Companion animal owners were found to be more likely to participate in volunteer, school and sports activities, professional associations and environmental campaigns. They were also reported to be more likely to exchange favors with neighbors. Animal-related favors can be particularly symbolic of trust. There is, after all, more emotional investment in asking your neighbor to look after your cat while you are away on vacation than in borrowing a cup of sugar.

If civic engagement can enhance the development of trust, reduce the fear of crime, and be a protective factor for mental health, the possibility that positive interactions with companion animals may improve community health warrants further study. Though not everyone has the desire or capacity for companion animals, neighborhoods that are pet-friendly may have much to gain for their human and nonhuman residents.

Rates of criminal violence are reported to be higher in mobile and heterogeneous societies where it is difficult to put down roots and establish the social glue that binds people into a community (Begley, 2007). If companion animals are catalysts for communication that facilitate social interactions

among strangers (Arkow, 2011), they may be the first drop of that glue to connect people in a community.

The converse to this argument also warrants exploration: what happens to social capital in communities that do not have high rates of companion animal residency? If the presence of companion animals provides benefits, does it necessarily follow that a lack of such deprives communities of those benefits? While it is arguably difficult to measure something that is not there, can a case be made that an absence of companion animals decreases social capital? Is violence more prevalent in communities with lower rates of companion animal ownership and social norms that may not favor compassion toward animals? Are companion animals a protective factor for community health?

Companion Animals as Calming Ambassadors of Nature

Companion animals have been described as an aspect of nature having a calming effect on people (Kellert & Wilson, 1993). Arkow (2011) observed that companion animals are widely seen to provide people with unconditional affection and warmth, opportunities for amusement, diversion from everyday problems, and feelings of being needed. They can serve as “ambassadors from the natural world who bring a sense of calm and natural cycles into an increasingly urbanized, mechanized world” (p. 2). In the early years of human-animal studies, Beck (1983) observed that, despite the municipal costs of public health, safety, animal control, and nuisance abatement programs resulting from animals, people consistently demonstrate a desire to have contact with the natural environment and living things. People counteract the effects of urban environments by sharing their homes with companion animals. He noted that this phenomenon is an ancient one, and that the domestication of the dog coincided with the time that people started living in villages.

Seminal literature has described the presence of companion animals in urban communities as a social class issue. Ritvo (1987), Rowan (1988), and Serpell (1996) described the rise of pet-keeping in the 19th century as a previous upper-class luxury which was only extended to middle- and lower-class residents as a result of rapid urbanization accompanying the Industrial Revolution. This phenomenon occurred once animals came

to symbolize a nature that was no longer perceived as threatening. A tame, accommodating ambassador from the natural world became reassuring evidence of man's power, rather than a troublesome reminder of human vulnerability to the natural world. Pet-keeping became an emotionally rich and complex practice that replaced traditional animal-human interactions associated with farming and transportation for formerly rural residents who migrated to new centers of urban commerce and residence (Grier, 2006). Where dogs had long been kept for purely utilitarian purposes as the exclusive province of a privileged upper class, animals began joining households in unprecedented numbers to provide companionship and affection for people who had moved from the country to the city: for many people, companion animals became the most immediate, and often the only, source of regular contact with animals.

Urban communities today may compensate for the absence of natural surroundings not only with household companion animals but also with what Melson & Fine (2006) called "intentional wildlife experiences" (p. 209) such as parks, green spaces and zoos. They reported that while zoos and aquaria draw large audiences disproportionately overrepresented by families and groups with children, companion animals may be the most readily available and continual source of affective bonds for children in contemporary families, and a majority of children said they had seen more wild animals on television and in the movies than in the wild.

Louv (2006) described a condition he called "nature-deficit disorder" (p. 10) where "suburban manifest destiny" (p. 18) has deprived youth from healing contact with the living environment. He said exposure to nature may reduce the symptoms of attention deficit and hyperactivity disorder and increase resistance to negative stresses and depression. He observed that "nature offers healing for a child living in a destructive family or neighborhood" (p. 7) and that "access to public parks and recreational facilities has been strongly linked to reductions in crime and in particular to reduced juvenile delinquency" (p. 177). Louv surmised that the proliferation of companion animals and animal imagery may be how an increasingly urban society compensates for a "de-natured" childhood (p. 26).

Aggressive Animals and Community Violence

If a calming influence of animals is said to reduce violence, then one might surmise that the presence of animals emblematic of aggression might somehow be correlated with increased levels of community violence. Hughes, Maher, & Lawson (2011) examined the links between ownership of reputedly aggressive status dogs with criminal and violent behavior. Youths' criminality was linked to these dogs in four ways: committing an offense with the dog; committing an offense on the dog; theft of a dog; and committing an offense to protect or avenge their dog. They argued that status dogs are a way for urban youth to establish their masculinity while being on the periphery of violence, and that owning a dog perceived to be socially deviant perhaps indicates the owner has a deviant identity as well.

Barnes, Boat, Putnam, Dates, and Mahlman (2006) examined the association between ownership of high-risk dogs and those with histories of attacking persons with the presence of deviant behaviors in their owners. In a matched sample of 355 owners of dogs that represented high- or low-risk breeds, owners of high-risk dogs had significantly more criminal convictions for aggressive crimes, drugs, alcohol, domestic violence, crimes involving children, firearms offenses, and traffic citations. Findings suggested that ownership of an aggressive dog can be a significant marker for general deviance and should be an element considered when assessing risk for child endangerment. Meanwhile, in many rural, Hispanic and Asian communities, cock fighting is considered a normative behavior and a cultural heritage (Jaramillo, 2010). These animal activities may actually contribute to community violence rather than mitigate the risk of violence.

The popularity of status and fighting dog breeds widely perceived as being aggressive and emblematic of their owners' desires for macho status has soared in recent years. More than 5,000 pit bulls have been seized in dogfighting raids since 2000. About 19% of the dogs who have been reported stolen since 2005 have been pit bulls. Since 2005, 21% of dogs impounded in cases of severe and profound neglect, 21% of dogs impounded in cases of violent abuse, 49% of dogs set on fire, and 14% of dogs raped in bestiality cases have been pit bulls (Clifton,

2011). Statistics such as these prompt a question as to whether the types and behaviors of certain companion animals may be diagnostic of or correlated with urban violence. A review of animal cruelty arrests in Chicago supports correlations between fighting dogs and violent crime. Arkow (2005) reported that police authorities directly connect dogfighting to the violent world of guns, gangs and drugs, with 35% of search warrants executed in these investigations resulting in seizure of narcotics or guns, and 82% of offenders having prior arrests for battery, weapons or drugs charges.

It is unknown whether status dogs with reputations for aggressiveness, often kept for guard duties and fighting purposes rather than for intimate personal attachment, are over-represented in communities with high rates of crime. Anecdotally, animal shelter officials suspect inner-city neighborhoods of such trends. Cleveland (2006) reported that as many as 31% of inner-city high school students in Chicago had attended a dogfight.

In a dissertation, Levinthal (2010) correlated incidence of animal cruelty with demographic and neighborhood factors in an urban environment. Using a dataset of animal maltreatment cases from the Pennsylvania Society for the Prevention of Cruelty to Animals (SPCA), the distribution and prevalence of animal neglect, abuse, and dog fighting in Philadelphia were mapped with Geographic Information Systems. Statistical analysis of the relationship between animal maltreatment and neighborhood factors, domestic violence, and child maltreatment found a high crime neighborhood seemed to predict animal abuse, although with a very low strength, suggesting that animal abuse may be better explained as an individual phenomenon than a behavior that is a function of neighborhoods. However, animal neglect did correlate with demographic, cultural, and structural aspects of block groups, suggesting social disorganization may lead to animal neglect. Dog fighting correlated with other forms of deviance, highly disorganized neighborhoods, the availability of abandoned properties, and percentage of Hispanic population. The unknown propensity of neighborhoods to report instances of animal cruelty and neglect, false reporting of animal nuisance cases as cruelty, and fewer eyewitnesses willing to step forward in

neighborhoods undergoing structural decline were cited as limitations compromising the validity of the SPCA data.

Aggressive behaviors involving animals may involve other types of animals besides companion animals. Fitzgerald, Kalof & Dietz (2009) reported dramatic increases in total numbers of arrests and arrests for violent crimes, rape and other sex offenses in communities marked with the institutionalized, but socially acceptable, violence of slaughterhouses. While such increases may be linked to the demographic characteristics of the workers, social disorganization in these communities and increased unemployment rates, additional research is needed to address the possibility of a link between increased crime rates and the violent work that occurs in the meatpacking industry.

Animal Cruelty and Interpersonal Violence

Emotional attachments to companion animals may be exploited by abusers in violence-prone households to control and coerce victims in domestic violence, sexual assault, child abuse, and elder abuse situations (Ascione & Arkow, 1999). Batterers' actual or threatened cruelty to animals serves as a barrier to keep women and children from extricating themselves from abusive situations (Roguski, 2012). A dozen studies in domestic violence shelters have reported a range of 18% to 45% of battered women who say their partners killed, harmed or threatened family animals (Ascione, 2007). Childhood acts of animal cruelty may be sentinel behaviors that provide an early warning a child is living in a dysfunctional environment and may be exhibiting other antisocial behaviors (Gullone, 2012).

Viewing animal abuse for its impact upon human well-being and the societal norms of a community extends a long-standing paradigm, as described by Beirne (2009), who noted that the purpose of animal cruelty legislation since the 17th century "has never been to create a direct duty to exercise care toward animals as such but rather to prevent outrage to the sensibilities of the community" (p. 10).

Animal protection organizations have begun to modify their traditional animals-only focus to address human problems underlying crises with animals. Some shelters' philosophies now recognize that treating symptoms of animal welfare

problems, such as animal homelessness, abuse and neglect, is only a stopgap solution until underlying causes such as community and family dysfunction and violence are addressed (PetLynx, 2011).

Several theories have been advanced that attempt to identify causal and co-relational links between animal abuse and interpersonal violence: to date, much of the research in this area has been equivocal and subjected to methodological criticisms. Zilney (2007) described three such possible mechanisms: a graduation hypothesis (violence against animals desensitizes individuals, who escalate further violence in range and severity against human victims); a generality of deviance hypothesis (acts of animal abuse are part of a continuum of family violence and antisocial behaviors; see Gullone, 2012); and a masculinities hypothesis (acts of animal cruelty are performed predominantly by men). Whether these are accurate descriptors, or whether there are other factors yet to be identified, are subjects for much-needed future research. What is clear is that there is a “dark side” to the human-animal bond and that until recently the social sciences have not addressed cruelty against animals other than in terms of their legal status as the property of human masters (Beirne, 2009).

Challenges to Our Understanding

The above issues present many new opportunities for research by social scientists, public policy by government officials and programs by professionals concerned with community well-being. These opportunities, however, are constrained by a number of challenges. These include: lack of interest in animal issues by the social sciences; inadequate data regarding companion animal populations; inadequate statistical mechanisms; and unknown demographic forces at work regarding patterns of companion animal ownership.

Companion Animals Ignored by the Social Sciences

Animal concerns remain largely ignored by the social sciences. Flynn (2012) identified six reasons for this: society tends to value animals less than people; other issues are seen as more important; only a small fraction of cruelty cases are reported in the media, leading to public perception that animal abuse

is rare; crimes against animals are seen as isolated incidents rather than linked to social and cultural factors; socially-acceptable forms of violence against animals contribute to indifference about socially unacceptable forms of violence; and animal victims cannot speak on their own behalf.

Researchers, policy makers and program specialists addressing the links between animal abuse and interpersonal and community violence, and medical specialists working in the "One Health" field that bridges human and veterinary medicine (Burns, 2012), respond to this challenge by pointing out that animal welfare is also a human welfare concern. When animals are abused, people are at risk, and when people are abused, animals are at risk (Arkow, 2003).

Estimating Community Companion Animal Populations

As noted above, companion animal population estimates are notoriously problematic and have not been refined to quantify such populations in specific communities, particularly those marked by low social capital. A logical place to begin exploring the impact of companion animals or their absence upon social capital would be to track rates of animal ownership by ZIP Code, Standard Metropolitan Statistical Area, Census tract, or other standard geographical entities. Human-animal bond researchers were rebuffed in requests to include companion animal ownership questions in the 1980 and 1990 U.S. Censuses. Companion animal-related questions were neither included in the 2000 or 2010 Censuses, nor in the Census Bureau's annual American Community Surveys.

Companion animal ownership rates increase directly with household income and home ownership and inversely to human population density, with large cities having the lowest per capita rates of companion animal ownership (AVMA, 2012). Beck (1983) attributed declines in dog populations in large cities to large numbers of working wives, inflationary forces and people living in compact residences. It may be speculated that other factors limiting pet-keeping in urban areas could include: more single-parent or dual-income households with less time to devote to companion animals; greater numbers of elderly residents who are the cohort with the lowest rates of animal ownership; greater populations of minority ethnic and immigrant groups for whom companion animals may not

be culturally relevant; and higher housing costs and poverty rates creating less disposable income to spend on companion animals. Poverty alone, however, may not be a determinant: homeless persons living on the streets have been documented to have inordinately strong emotional attachments to their companion animals (Irvine, 2013).

Inadequate Local Mechanisms

Few mechanisms are available on the local level to provide accurate data on whether the presence or absence of companion animals may be factors in community crime rates and social capital. Municipal animal care and control agencies are a disparate, uncoordinated network of public health, code enforcement, public works, law enforcement, and autonomous humane organizations with few mandates or expertise for gathering accurate statistics (Arkow, 1987).

Data that could determine companion animal ownership rates are notoriously unreliable or nonexistent. Dog licensing, for example, should be a valid indicator, but because of poor compliance and widely variable rates of enforcement, few localities can reliably estimate their resident companion animal populations. The licensing component of municipal animal regulation is so de-emphasized that even the National Animal Control Association's training manual (Larson, 2000) omits the topic.

Because so many variables affect licensing, dog licenses are a highly problematic indicator of canine populations. Animal control agencies report even lower rates of compliance with cat licensing in those relatively few communities in which cat licenses are in effect, making this statistic an even less reliable source for accurate companion animal demographics.

Rabies vaccinations, which are mandated by law for dogs in virtually all jurisdictions, are likewise statistically unreliable due to wide variations in rates of compliance, turnover and enforcement. In addition, veterinary resources may not be adequately deployed in distressed communities. The author once observed an animal control agency in Houston, TX where a wall map depicted the location of all veterinary clinics in the service area: the map pins created a doughnut effect with dozens of facilities located in more affluent suburbs, leaving the inner city core virtually devoid of veterinary services and,

by extension, underrepresented in any possible canine or feline censuses.

Unknown Demographic Variables

Our understanding of how human-animal interactions impact social capital and levels of community violence is further constrained by limited data regarding rates of pet ownership among various ethnic and cultural demographic cohorts (Signal & Taylor, 2006). Ory & Goldberg (1983) were among the first to report that interactions with and attachments to companion animals may vary by racial affiliations. Risley-Curtiss, Holley & Kodiene (2011) reported cultural differences in how families are perceived that could affect whether companion animals are considered family members. Numerous studies have found significant disparities of rates of pet ownership by race, with White populations having the highest rates, followed by Hispanics and African Americans (Brown, 2002; Marx, Stallones, Garrity & Johnson, 1988; Melson, 2001; Pew Research Center, 2006; Risley-Curtiss, Holley & Wolf, 2006; Siegel, 1995), with one study calling minority groups “sorely underrepresented” as companion animal owners (Petfood Industry, 2011, p. 41).

Kellert (1989) reported higher rates of negative attitudes toward animals among residents of larger cities, the elderly, and those of limited education. Hart (2006) reported that pet-keeping practices vary with neighborhoods and could be correlated with ZIP Codes to predict pet ownership practices.

Setting a Research, Program and Public Policy Agenda

Such limited data as exist suggest that companion animal ownership is markedly lower in distressed communities at greater risk of violent crime and reduced social capital. It is unclear whether the reduced presence of companion animals that could represent a softening influence of nature or that could provide mitigating emotional bonds with their humans is a contributing factor to violence in these communities. Greater understanding of pet-keeping practices and the connections between animal abuse and human violence may indicate whether companion animals are a protective factor that could help reduce violence in these communities.

Animal abuse is clearly a part of the pattern of family violence and its early identification can save lives and protect families (Roguski, 2012). Research into the sentinel roles of animals in community ecosystems and social capital is confounded, however, by numerous unknowns. A wide variety of environmental stresses and potential triggering mechanisms contribute to violence (Widom, 1989). If low rates of companion animal ownership co-occur in low-income and high-crime communities, it is difficult to determine the relative influence of any or all of these factors as well as the causal direction of the relationships. For example, is it the absence of companion animals, the absence of emotional attachment and bonding to them, or the types of animals preferred that may deprive members of that community of social capital? Do the demographics, economic realities, housing conditions, family systems, cultural preferences, socioeconomic status, or innumerable other factors make companion animal ownership unlikely to begin with?

Do high rates of companion animal ownership necessarily lead to higher social capital and lower rates of violence in all communities? Are these factors at play equally in urban, suburban and rural communities? While attempting to disentangle the many factors affecting distressed communities with the effects of companion animal ownership is challenging, a conscientious and multi-faceted research, policy and program agenda could help answer these many questions.

The field is fertile for researchers, policy makers and program specialists from many disciplines. A preliminary list of opportunities includes:

Replicate the Wood et al. (2005, 2007) social capital research, undertaken in a suburban community in Australia, in several American middle-class suburbs and in distressed inner-city communities marked by high levels of violent crime and compare findings.

Survey communities identified as having high levels of violence and diverse populations to establish baseline rates of ownership of various breeds and species of companion animals, and residents' attitudes toward pet-keeping, among ethnic and cultural populations.

Enlist pet industry officials and veterinary groups to expand and release market research data to include specific Census tracts, ZIP Codes, or other geographic entities to obtain more accurate estimates of the numbers and types of companion animals maintained in minority communities and in those marked by low levels of social capital.

Using data that describe animal abuse as a potential indicator and predictor of human violence, and market research demonstrating high prevalence and economic impact of companion animals, persuade the U.S. Census Bureau to include questions regarding companion animal populations in the annual American Community Survey and decennial Census.

The role of veterinarians in public health is long established. This role is being expanded through the "One Health" concept which applies veterinary and human medical disciplines to the study of human-animal interactions. The veterinary profession could be enlisted to address the links between animal abuse and interpersonal violence as a public health issue with particular attention to animal well-being in distressed communities which may not be receiving adequate veterinary services (Arkow, 2013).

Institutionalize data-gathering techniques in social services agencies by routinely including questions about clients' companion animals and their welfare in intake forms, risk assessments and interview processes. This switch from a "humanocentric" to a "biocentric" perspective (Melson, 2001) recognizes the impact of companion animals in the lives of clients. A more accurate description of the familial and community contexts of pet-keeping practices characteristic in clients receiving social services will improve the understanding of the impact upon social capital.

In 2004, the nation's leading municipal and nonprofit animal shelters signed an agreement called the Asilomar Accords to compile uniform reporting of intake and outgo statistics for animals. More than 400 shelters are currently participating (Maddie's Fund, 2004). No similar standardized

reporting systems are believed to exist regarding cases of cruelty to animals. A private individual has maintained www.pet-abuse.com as a searchable database and aggregate statistics of animal cruelty cases since 2002, but the accumulated records are not official, their accuracy and reliability are unknown, and the database is admittedly incomplete. Animal cruelty incidents are not routinely included in the FBI's Uniform Crime Reporting system. The Animal Welfare Institute reported that the FBI is aware of the value of including such cases, but technical data gathering, financial and procedural barriers must be overcome at the state level (Addington & Randour, 2012). A few local cities, such as Baltimore, MD, have begun tracking cruelty cases geographically (Mayor's Anti-Animal Abuse Advisory Commission, 2012), but there is as yet no systematic effort to compile and analyze these data nationally. These avenues offer researchers starting points to begin to accumulate data on incidence of animal cruelty and its impact on social capital.

Conclusion

Analysis of the relationship of pet-keeping and cruelty to animals to social capital provides many opportunities for new perspectives on the study of violence. Such study, heretofore concentrated on individual psychopathologies that may generate other antisocial behaviors, can be expanded to investigate the familial, community and societal stabilizing influences that prevent such acts from progressing into other antisocial acts, and the social capital elements that motivate widespread outpourings of public concern following high-profile animal cruelty cases (Arluke & Lockwood, 1997).

Pioneering research by Beck (1973) observed that the study of urban animals is pertinent to humans for several reasons. In addition to animals potentially serving as epidemiological indicators and vectors for disease, they can provide insight into the effects of urbanization on man. "Once their ecology is understood, urban dogs may serve as indicators of stress, pollution, environmental deterioration, and as models for behavioral adaptations to urban life," he wrote (p. xi). A reinterpretation of urban environments that includes animal components may be indicated (Bjerke & Østdahl, 2004).

A growing body of literature suggests that positive attachments to companion animals can have health-enhancing effects on individuals and enrich one's quality of life. Additional research can help determine whether the resilience and protective factors which companion animals may offer individuals extend to community populations as well. Sustained presence of companion animals with which strong positive emotional attachments have been developed may be acceptable substitutes for restorative contact with nature in urban areas at greatest risk of violence and as relief for "nature-deficit disorder" (Louv, 2006).

In a follow-up handbook to her original research, Wood (2009) described "how pets and their owners make measurable social contributions to our communities" (p. 6) and contribute positively to social capital. She cited dog park interactions, celebrations involving animals, the presence of service animals and other companion animal activities that can create community linkages, address the problem of obesity, facilitate social interactions, break down social barriers, and provide outreach to isolated residents. She encouraged the expansion of animal-friendly practices and accommodations as being good for community business.

If community involvement can enhance development of trust, reduce fear of crime, and be a protective factor for mental health, the possibility that positive interactions with companion animals may improve community well-being warrants further exploration. There is intuitive appeal to the potential of animals to mitigate harsh environments of distressed communities marked by low social capital. Academic scrutiny is needed to fill in the gaps in our knowledge and to explore the potential role of animals as protective factors enhancing the health of violence-prone communities. Such studies will help academicians and practitioners to better understand both the positive and negative components of the human-animal bonds in the communities in which they work.

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Relational Ecology: A Theoretical Framework for Understanding the Human-Animal Bond

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This qualitative study investigated the perceived impact of companion animals on the psychological well-being of lesbian women over age 65. Twelve women, ranging in age from 65-80, were interviewed with a semi-structured interview guide. Four thematic findings are highlighted: love and attachment, animals in transitional spaces, challenges and rewards of caregiving, and preparation for death. The author offers the term "relational ecology" to explain how animals contribute to well-being. This integrates the growth task model of human development, object relations theory, liminality, and deep ecology.

Key words: human animal studies, psychological well-being, grounded theory, lesbian, older adults

This paper draws on the findings of an exploratory, qualitative study of older lesbian adults to introduce the term "relational ecology" as it pertains to the interaction between the well-being of humans and their companion animals. The term "relational ecology" bridges psychodynamically informed theory and an ecological perspective to explain how animals help shape humans' identities and foster well-being. Human-animal relationships can be illuminated—albeit with proposed extensions—with a combination of constructs and theories, including the growth task model of development, object relations, liminality, and deep ecology.

The Administration on Aging (1999) estimates that one in five Americans will be 65 or older by 2030, and an estimated 6% of those (four million) will identify as lesbian, gay, or bisexual (Bailey, 2000, as cited in Grossman, 2008). Research on lesbian elders is scarce. A report on lesbian, gay, bisexual, and transgender (LGBT) health by the Institute of Medicine (2011)

suggests that the field of gerontology rarely incorporates lesbian elders in its research. Furthermore, inquiry into LGBT health often excludes older adults. The limited available information indicates a complicated matrix of risk and protective factors related to health status and wellness among lesbian elders. Research suggests that compared to their heterosexual counterparts, older lesbian adults have an elevated risk for poverty (Albelda, Badgett, Schneebaum, & Gates, 2009), depression, psychological distress, and suicidality (Fredriksen-Goldsen et al., 2011; Wallace, Cochran, Durazo, & Ford, 2011).

How do we explain these disparities? The evidence suggests that the disparities correlate with the stress of living as a disenfranchised minority subject to discrimination and victimization (Green & Feinstein, 2011; Meyer, 2007). This is a phenomenon referred to as minority stress (Brooks, 1981). On the other hand, analysis of evidence suggests that a majority of older lesbian adults think that "coming out" has uniquely prepared them for aging. This is a phenomenon termed "crisis competence," whereby managing the adversity of events such as family disruption and alienation helps prepare one for adapting to the crises of later life (Clunis, Fredriksen-Goldsen, Freeman, & Nystrom, 2005; Kimmel, 1978 as cited by the Institute of Medicine [IOM], 2011).

Lesbian elders are less likely to have children and tend to rely more on social networks and families of choice (Clunis et al., 2005). However, the role of families in the lives of older lesbian adults is not well understood. It appears that lesbians' primary concerns related to aging are about loss of independence, loss of mobility, and declining mental health or cognitive ability (Hughes, 2009). Many expect discrimination from healthcare providers and believe that providers' awareness of participants' sexuality would adversely affect the quality of care (Hughes, 2009). The IOM (2011) identifies a strong need for research on lesbian aging, with a particular focus on family life, including the experiences of families of choice, experiences of grief and loss, end of life issues, mental health, and the experience of later life. This paper explores these issues as they pertain to a particular relational context—also overlooked and under-researched in social work—the human–animal bond.

Why the human–animal bond? Approximately 62% of

American households include a companion animal (American Pet Products Manufacturers Association, 2003; PET AGE, 2008). In the previously mentioned landmark study of older LGBT adults, Fredriksen-Goldsen and colleagues (2011) found that 44 percent of participants have one or more companion animals, although the researchers have not yet analyzed how measures of well-being might vary by presence of an animal in the home.

Broadly stated, animals seem to help people (Walsh, 2009). In a review of the literature about the relationship between dogs and human health, Wells (2007) showed that dogs can prevent illness, detect illness (such as cancer), help facilitate recovery from ill health (such as myocardial infarction), help ameliorate the effects of stressful events, alleviate anxiety and depression, and enhance perceptions of autonomy. "There is well-documented evidence to show that animal companionship can have significant positive effects on people's emotional, social, psychological, and physical well-being" (Sharkin & Knox, 2003, p. 415). Companion animals seem to affect the physical and psychological health of certain populations, such as the elderly (Enders-Slegers, 2000; Hecht, McMillin & Silverman, 2001; Raina, Waltner-Toews, Bonnett, Woodward, & Abernathy, 1999; Siegel, 1990), people living with HIV/AIDS (Castelli, Hart, & Zasloff, 2001; Siegel, Angulo, Detels, Wesch, & Mullen, 1999) and those with cardiac disease (Allen, Blascovich, & Mendes, 2002; Friedmann, Katcher, Lynch, & Thomas, 1980; Friedmann & Thomas, 1995).

Older adults appear to benefit more than other populations from companion animals (Headey, 1999). Cohabiting with animals may promote health among older women by mediating stress and loneliness (Krause-Parello, 2008). One study, conducted with a national probability sample of adults age 65 and older, showed an inverse relationship between pet ownership and depressive symptoms (Garrity, Stallones, Marx, & Johnson, 1989). Data from the same study demonstrated an association between stronger pet attachment and better physical health among respondents who reported low levels of human social support. Among those who were socially isolated, those who felt more attached to their pets reported better physical health. Similarly, data from a prospective study of physician

utilization among the elderly illustrated that respondents with pets had fewer doctor visits over a one year period of time than those respondents without pets (Siegel, 1990). A qualitative study found that community dwelling older adults perceived their animals as providing social support (Enders-Slegers, 2000).

The mechanisms underlying these benefits remain less well understood. Scholars have postulated that: companionship is the mechanism by which animals promote well-being (Antonacopoulos & Pychyl, 2008); animals act as a buffer against stress (Serpell, 1991); animals provide social support that alleviates the effects of stress (Enders-Slegers, 2000); animals reduce their guardians' isolation and loneliness (Raina et al., 1999); exercise, via dog walking, prevents illness (Brown & Rhodes, 2006); and pets, specifically dogs, act as catalysts for social interaction (McNicholas & Collis, 2000).

The human-animal relationship is a young and growing focus of scholarly inquiry in social work. In literature pertaining to human services, it is divided into the investigation of two distinct subject areas: naturally occurring pet ownership (such as having an animal in the home) and animal-assisted interventions (such as animal-assisted psychotherapy). This study aimed to expand knowledge on naturally occurring animal companionship among a population not yet represented in the human-animal bond literature: older lesbian adults. The study had four goals: (1) explore how companion animals may support psychological well-being; (2) understand the needs of older lesbian adults with respect to providing care for their companion animals; (3) create an opportunity for older lesbian adults to make their experiences more visible; and (4) illuminate shared themes that may have implications for building theory about lesbian women in later life, the human-animal bond, and general human behavior (LaSala, 2005). What do older lesbian adults perceive as the rewards and challenges of their relationships with companion animals? How do older lesbian adults perceive the impact, if any, of companion animals on their psychological well-being?

Methods

Given the purposes of this study, grounded theory methodology was the best fit. Grounded theory is intended to inductively develop an abstract conceptualization that explains a phenomenon (Glaser & Strauss, 1967). Instead of merely describing a pattern, grounded theory aims to offer an explanation about why or how a pattern happens (Glaser, 2001; Holton, 2007).

This was a non-probability sample gathered through purposeful and snowball sampling techniques. Eligible participants were female, age 65 or older who self-identified as lesbian, lived in a non-institutional setting, had any kind of companion animal, and self-identified as the primary caregiver of their pet(s). Individuals who had lost an animal within the past six months, or whose animals were seriously ill or dying, were excluded. The sample consisted of 12 women whose ages range from 65-80, with a mean age of 71. Seven of the respondents were either married, cohabitating with a partner, or in a civil union. Five of them were single or divorced. The respondents' marital status was partially determined by the states in which respondents reside and the policies governing access to marriage. Seven participants were previously married to men, and five of them had children, all of whom are adults now. Given the goal to include varied data and develop theoretical saturation, efforts were made to iteratively recruit women with diverse experiences related to age, sociopolitical context, relationship status, socioeconomic status, and health.

The interview guide consisted of open-ended, semi-structured, exploratory questions and probes. Content areas of the interview included benefits and challenges of having an animal, reasons for adopting an animal, importance of animals over the life course, experiences of aging, and descriptions of the nature of the relationship with an animal. Data were collected specifically for research purposes through interviews of approximately two hours in length that were audio taped and transcribed verbatim. Each respondent was interviewed once. The Simmons College Institutional Review Board (IRB) approved the study proposal and all material related to study recruitment and consent procedures.

Constant comparison data analysis allowed for simultaneous immersion in the data collection and analysis. This data analysis approach lends itself to the inductive generation of plausible themes and patterns that represent the stories of the phenomenon under study (Strauss & Corbin, 1994), requiring systematic examination of similarities and differences across the data. Analysis began with open coding, which led to the development of a preliminary list of codes and thematic categories. The data was reviewed multiple times for comparison. New codes were established until the data confirmed existing themes and subthemes. Memos functioned as a vehicle for shaping the emerging analysis by conceptually linking data into themes and making comparisons. They also served as a reflexive process for maintaining self-awareness about biases and assumptions so as to reduce threats to trustworthiness. Glaser (1978) defined a memo as:

the theorizing write-up of ideas about codes and their relationships as they strike the analyst while coding ... it can be a sentence, a paragraph, or a few pages ... it exhausts the analyst's momentary ideation based on data with perhaps a little conceptual elaboration. (p. 83)

The memos provided a record of how the analysis took shape, and this supports the transparency of the process.

To further enhance the rigor and trustworthiness of the analysis, I debriefed at least monthly with the dissertation committee and shared portions of the data, as well as the theme codebook as it developed, to check for biases, assumptions, and flawed logic (Maxwell, 2005). Two members of the committee independently coded transcripts. In addition, analysis included rigorous searches for discrepant data and for tensions in the data.

Findings

The findings of this study invite us to recast our understanding of human-animal relationships. This close examination of human-animal interaction provides insight into how this respondent group engaged with existential questions such as: Who am I? How do I want to live? How do I

want to die? What purpose might my life serve? The subjective experiences of the human–animal bond, as shared by the respondents, deepen and broaden our understanding about older lesbian adults' ultimate concerns: end of life, love, survival, and purpose. Five main themes materialized in the data analysis: attachment, animals and transitional spaces, caregiving, preparation for end of life, and trauma. This paper will highlight the first four to lay the empirical groundwork for introducing the term "relational ecology."

"Souldog:" Attachment

A prominent thematic finding is that this respondent group perceived their companion animals as beloved family members of choice. One respondent referred to her animal as her "souldog." All but one used the word "love" to describe their feelings about their animal. A majority of respondents identified that a particularly meaningful aspect of this love is that they perceived their companion animals as non-judgmental. One respondent remained closeted throughout her career in order to preserve her employment. She had a valid fear that she would be fired if she disclosed her lesbian identity, and she spoke directly about the non-judgmental quality of animals. She said, "I think that's what animals are. They're non-judgmental. They don't care if I'm a lesbian. They never have." Every respondent identified that another aspect of the relationship—companionship—was a particularly rewarding aspect of having an animal.

A majority of participants suggested that they experienced their best selves in relationship with their animals. One respondent observed:

She is my souldog ... The love that she has given me, and the love that she has taught. I could say I don't deserve that. But I know I do. And the look in her eyes tells me that she's giving me that love, and that I deserve her love ... She's part of me. She makes me more than I am without her, by myself.

Animals also helped connect people to community and sources of social support that might not otherwise have been possible. This was particularly important for the respondents

who lived in politically conservative states in which they felt more invisible and marginalized.

"A Horrible Time:" Animals in the Space Between

A second major thematic finding is that the human–animal relationship took on remarkable salience while participants navigated transitions and losses, which can be described as liminal periods. A liminal period is a gap, a crack, a transition, or an in between time (Turner, 2008) when one is in a psychosocial space that consists of loss, tension, and presence on a threshold between here and there (Kelly, 2008). The companionship of animals assuaged loneliness and grief during life transitions. However, the loss of an animal precipitated a threshold experience for a majority of respondents, a liminal period in which individuals underwent substantial disorganization to their sense of self, sense of purpose, connectedness, and daily routine. Some respondents coped with losing an animal by creating rituals that resemble customs of mourning when human loved ones die. In retrospective and prospective ways, the grief associated with losing an animal can be dreaded, sustained for years, and/or attenuated. A few participants subjectively experienced such grief as more intense than losing parents or a spouse.

A respondent with terminal cancer reflected on the importance of her companion animals in three liminal periods: as she prepares for death, in the immediate aftermath of her cancer diagnosis six months prior to the interview, and in the wake of her partner's traumatic death twenty years ago:

She's good company for me. Especially since I'm not quite homebound, but I spend a lot more time at home than I used to spend at home. ... Basically, I see her, really, as a companion animal. She keeps me company here. Otherwise, I'd be here alone. ... I really have loved having companion animals. I really have. They have gotten me through some really hard times. Just being there for me, I think. I went through a horrible time when my partner died. Here. That was horrible. I mean, I was really out of it for a number of weeks. I was really not functioning too well. I was—the shock of it was so horrendous, because it was so unexpected. And I was left dealing with a lot of rather complicated issues. And I surprised myself, how well I handled

it. Because up 'til then, I had never had to deal with anything like that before. But I really think that some of my animals helped me through that period. And she certainly has been, you know, a constant here for me. When I was a zombie for three months last summer, she was at least, you know, here to cheer me up.

"A Lot of Work:" The Challenges and Rewards of Caregiving

All respondents shared that caregiving for their animals conferred both challenges and rewards. Caregiving was highly demanding, costly, restrained freedom to travel, was particularly stressful when combined with other burdens, and could exceed the abilities of the respondents. Also, work associated with providing for a companion animal alleviated some respondents' physical pain, fostered a sense of purpose and self-efficacy, and cultivated the human-animal bond.

Respondents described caregiving as a meaningful responsibility, the fulfillment of which helped respondents feel skilled and capable. One respondent felt that protecting animals from harm is a kind of duty inherent to being human. She perceived animals as sentient beings:

Abuse towards animals of any kind, it hits me with the same intensity as abuse to children, because there is just no call for it. And, so I think as, you know, because we have, are so dominant as humans we have a certain stewardship over the environment and animals that we should pay particular attention to.

Put another way, four respondents felt that caregiving for their animals was meaningful in that they needed to attune to something beyond themselves. Furthermore, they felt rewarded by believing that they were uniquely well suited to rescue their animals from harsh conditions and provide for them in a particular way that no one else could.

Nine respondents recounted the difficulties of animals' medical problems. In the case of two participants whose impairment in mobility made it especially difficult to provide for their animals' care, they needed help on a daily basis. In both cases, the caregivers were present for part of the interviews, because they had arrived at the respondents' homes to take the dogs out. The interaction between the respondent, the caregiver, and me was recorded in the transcripts and became a data

source. What became clear was twofold: the respondent and her animal were highly dependent on the dog walker, and the dog walker's presence was beneficial to both dog and respondent. For example, for the respondent with terminal cancer who was largely homebound, her friend visited her twice daily to care for her dog. If she did not have a dog, she would have less frequent human contact.

"There are Times to Die:" Preparation for End of Life

The fourth main thematic finding relates to the respondents' experiences of later life and preparation for end of life. An overwhelming majority of respondents talked about developing wisdom with age, and this entailed feeling more present in the moment, caring less about others' approval, feeling more creative and relaxed, and gaining clarity about—and acceptance of—one's identity. Animals contributed to this vitality by helping respondents socialize, exercise, tolerate stress, and feel purposeful.

Many respondents, however, experienced a combination of freedom, fear, and dread. The most clear and liberated articulation of self in later life was juxtaposed with fear related to injury, intractable pain, loss of abilities to care for oneself, loss of freedom to express oneself, and the possible transition to dependency on others before dying. At a time when many of them made peace with mortality, they also feared losing themselves to health decline that would render them unable to manage their activities of daily living, unable to live as they wish, and unable to have an animal. This fear was expressed by two respondents who disclosed their thoughts of suicide if faced with the loss of freedom and capacity for self-care. One respondent stated,

I'm a big believer in ending your life if you're too miserable. And I do try to work up the courage to end my life if I get too bad off. ... I would just have to make sure somebody could take the animal. And if they couldn't, I'd have to stay alive until they got older.

These fears were also articulated by two other respondents who were experiencing medical problems and associated difficulty with animal care. They felt distressed by the possibility of moving into a living situation that disallows animals. Those

who were ill and could benefit from the companionship of an animal were also the most challenged in their efforts to keep them.

Across the sample, respondents did not fear dying; they feared pain and suffering. They feared, in other words, a bad death. The respondents brought this fear of suffering to bear when making decisions about euthanasia of companion animals. Although they faced decisions about euthanasia with varying degrees of distress, they sought to compassionately ensure “a good death” for their animals. Some respondents wanted the option of euthanasia for themselves. This insight unsettles how we approach end of life for human beings and contributes to ongoing discourse about death and dying in the United States. Consistent with existing research about what most Americans consider a good death, the respondents shared that a good death consists of: acceptance of death, embracing silence, effective pain management, maximized self-determination, peace of mind in knowing that loved ones (including animals) are taken care of, and a death at home in the company of loved ones—including animals.

Discussion

The stories of these 12 women unsettle commonly accepted ways of thinking about identity development, love, family, and well-being. Lived experiences are more complicated than any single theory or conceptual framework can adequately capture. Therefore, the author draws on existing theories to illuminate pieces of the respondents’ stories, extends the theories to further understand human–animal interaction, and highlights how the data troubles certain claims to knowledge. The respondents’ perspectives invite us to question widely held beliefs about the relationship between humans and companion animals, relational spaces in general, aging, and sexuality. To shed light on this intersection, it is useful to consider lifespan development theory, object relations theory, liminality, and deep ecology.

Relational Ecology

I offer the term “relational ecology” as one way of thinking about the human–animal bond. The concept of relational

ecology integrates and applies several theories and perspectives to understand the inter-dependence of humans and their companion animals as they exist in the context of an individual's many relationships (with other people, with the environment, with communities, and with institutions). It is a term that bridges developmental theory (growth-task), psychodynamically informed relational theory (object relations), and anthropology (the concept of liminal spaces) with the science of ecology, which investigates the human and non-human worlds with a particular focus on dynamic relationships between organisms and/or species, and their environment. This is in keeping with the long-standing social work practice orientation of understanding individuals as being in a dynamic and reciprocal relationship with their environments across micro, macro, meso, and exosystems (Bronfenbrenner, 1979).

Lifespan Development Theory

The developmental themes voiced by the respondents resonate with existing lifespan development theory. Weick (1983) challenged the epigenetic view of sequential adult development according to age-related stages and argued that conceptualizing adult development in the framework of age-related stages is biased by the socio-cultural expectations and norms that govern when adults should adopt social roles (such as entering into marriage and parenthood). The epigenetic view of adult development is particularly problematic for lesbian individuals, who may be subject to different societal expectations and who are excluded in some states from marriage and parenting via heterosexist policy. Lesbian individuals' adult development may therefore be poorly represented by a stage model and better represented by the growth-task model.

The growth-task model suggests that humans experience a continual striving toward growth, and that change is constant. Instead of valuing homeostasis and balance, this model focuses on adaptation to disruption and crisis, which is defined as maintaining a core of stability and simultaneously being prepared for shifts in that core. Furthermore, this model recognizes that change is affected by social roles. Weick (1983) argues that developmental tasks form cyclical, non-linear themes:

the capacity for intimacy, the capacity to nurture, engagement in productive activity, establishment of

balance between dependence and independence, and the capacity to transcend personal concerns. (p. 134)

Instead of mastering each task and then moving on, the growth-task model posits that throughout life, new challenges require that a person refines old resolutions. Weick eloquently states that "the aim of adulthood is not to 'grow up' or 'get it right' (perfect marriage, perfect job, perfect children) but a free-flowing exploration of self in relation to others" (p. 136).

The findings suggest that these developmental themes apply to older lesbian adults, and that the construct of "others" needs to expand to not only human family, friends, and chosen family, but also companion animals. Each respondent reported continuous identity development throughout their lives that defies simple categorization or monolithic description. In relationship with their animals, this respondent group explores the capacity for intimacy, nurturance, and transcendence of personal concerns; they also engage in productive activity and navigate dependence and independence. They continue to delight in growing.

Object Relations

Quantitative and qualitative research has generated empirical support for the construct of companion animals as attachment figures, consistent with attachment theory as proposed by Bowlby (1973). Building on this existing research, researchers conducted semi-structured interviews with 11 elderly women and argued that animals function as attachment figures and furthermore, that "extreme attachment may result in less desirable health outcomes" (Chur-Hansen, Winefield, & Beckwith, 2009, p. 290). They hypothesize that there is a curvilinear relationship between pet ownership and health, whereby extreme attachment, on one hand, and lack of attachment, on the other, might correlate with psychopathology and negative health outcomes.

Although attachment theory may provide an empirically supported construct for conceptualizing human-animal interaction, it might lead to an overly determined and inflexible conceptualization that can include judgments about what is and is not psychopathological or otherwise unhealthy. The hypothesis Chur-Hansen et al. (2009) propose is problematic because of the way it lends itself to pathologizing individuals

and their subjective experiences. It also seems to fall short of acknowledging two critical elements: one, an intricate understanding of well-being; and two, felt attachment to animals is one part of a person's life that might include trauma, discrimination, oppression, and resilience. I hesitate to categorize any of the respondents in this study as having either a healthy or unhealthy relationship with their animals, given the complexity of their lives, their felt attachments to their animals, and the meaning they made of those attachments. The research trajectory that logically flows from Chur-Hansen's hypothesis leads to another conceptual problem: the operationalization of "extreme attachment" and "lack of attachment" and all that falls in between. I propose that we pull the lens back to the theoretical tradition that attachment theory came from—object relations theory—and include animals in how we define objects, self, and relationship.

Object relations theory asserts that human beings develop internal representations of external people and interactions with those people (termed "objects"). Consistent with social constructionism, I acknowledge that words used to describe phenomenon also shape and constitute the ways we think. Specifically, the use of the term "object" can be problematic because of the way it could further objectify and devalue women and animals. I use the term "object relations" with a cautionary stance and note that I do not intend to contribute to the objectification of women or animals. Rather, its use is consistent with the theoretical tradition of object relations theory.

Internal representations ("objects") become a crucial part of an individual's psychological development and inform, to a great extent, how one develops an understanding of self, of other, and of the relationship between the two. "What is 'outside' often gets 'inside' and shapes the way a person grows, thinks, and feels" (Flanagan, 2011, p. 122). As an illustration, one respondent said in reference to her dog, "She's part of me. She makes me more than I am without her, by myself." A companion animal can function as an object. Animals can become internally represented and important to a person's conceptualization of self and other.

Other researchers have noted that individuals often perceive their companion animals as family members (Cohen,

2002; Risley-Curtiss et al., 2006). Although this is consistent across the literature and with this current research, this study broadens and deepens our understanding of the how the human–animal bond renders importance in some individuals' psychological development and well-being. The relationships between humans and companion animals function similarly to impactful and sustaining human relationships: they help inform and nurture an individual's sense of self and a sense of social connectedness that may not otherwise be possible. Animals provide a kind of mirror whereby individuals can cultivate self-efficacy and accept their strengths and flaws. Companion animals provide a non-judgmental presence that can be internalized in ways that help shape how an individual defines and experiences herself. Animals have helped respondents develop their best selves and experience confidence, self awareness, and self acceptance. One significant contribution of this research is that the inter-species connection can shape and transform identity and community via internalization of animal as object. This concept is illuminated further with an examination of the holding environment as a metaphor for the human–animal bond, as described next.

Holding Environment

Based on extensive research with infants and their caregivers, Winnicott (1956) identified various processes that he described as "holding." He conceptualized the holding environment in two ways: "to describe the biopsychosocial context in which infants are sensitively tended to by their caregivers; and as a metaphor for the silent, sustaining therapeutic functions—the relational matrix—of effective helping efforts" (Applegate, 1997, p. 8). Consistent with the social work practice orientation to the ecological model, Winnicott (1956) offered a broad understanding of the holding environment. He wrote, "One can discern a series—the mother's body, the mother's arms, the parental relationship, the home, the family including cousins and near relations, the school, the locality with its police stations, the country with its laws" (p. 310). Therefore, the holding environment is not limited to the caregiver-infant dyad.

Optimal development seems to rest on "good enough" caregiving, which includes attuning to an infant's needs,

failing, and amending for failures in ways that help infants begin to experience love and develop stable internalized representations of others and self (Applegate, 1997). Good enough caregiving includes sensitivity, consistency and reliability, through which being “seen” is a reciprocal, partnering process between infant and caregiver.

The holding environment is a robust metaphor for human–animal interaction. The respondents suggested that in some cases, animals helped provide a holding environment in childhood that was not otherwise available. Such a holding environment was also experienced by the respondents in adulthood, which became evident in the way that they described mirroring by animals, the consistency of animals, animals’ attunement to respondents’ affective states, the way animals provided protection and perceived safety, and also in the ways that animals “failed”—they ran away, did not listen, and had accidents in the house. Individuals can internalize representations of their animals in a way that aids in the development of a sense of self, ego function, stability and safety.

Liminality

The term ‘liminality’ derives from the Latin word ‘limen,’ which means ‘threshold’ (McCoy, 2009). Based on the ethnographic research of van Gennep (1960) and Turner (1964), the concept of liminality emerged in anthropological discourse, when it was associated with rites of passage. Turner (1969) suggested that rites of passage include three phases: separation, transition, and incorporation. Liminality refers to the middle, transition stage, when one is in limbo—when one has experienced loss and has not yet reconstituted. The concept has grown as a salient perspective in several fields of study, including sociology (Broom & Cavenagh, 2011), education (Meyer & Land, 2005), psychology (Kelly, 2008), and social work (Irving & Young, 2004; Thompson, 2007), among others. The reader can imagine a liminal space as a gap, a crack, a transition, or an “in-between space” (Turner, 2008), whereby people experience disequilibrium and disruption of self (Broom & Cavenagh, 2011). Liminality represents a transitional space that can be experienced as psychologically troublesome, anxiety-producing, and transformative. It is an existential state of being and a

psychosocial space that defies categorization and “becomes a useful lens to grasp a subjectivity that refuses to stand still and be named” (Thompson, 2007, p. 334).

One of the significant contributions of this study is the conceptual marriage of liminality and the human–animal bond within a particular context of aging and adversity. The respondent group described several rich and meaningful threshold experiences. Such experiences include: living in the space between what is known and unknown, living through the loss of loved ones, preparing for death, and discovering ways that the bonds between humans and animals can intensify in both depth and complexity during times of transition and loss.

The concept of liminality is a useful lens with which to apprehend several aspects of the human–animal bond and aging. First, animals might help people cope with liminal spaces through their steady, consistent presence. Second, the loss of animals might precipitate disruption of self that characterizes liminality. Third, if we think about liminal space as a kind of borderland, as a space between two entities, then human–animal interaction might be represented as a borderland place where species meet and change each other. Fourth, end of life may be a liminal period, in which people experience loss, dislocation of self, growth, anticipation, and transition from life to death. The quiet, steady comfort of an animal’s companionship might be especially helpful during this time.

In the liminal space, people experience a state of disruption, disorganization, of being neither here nor there, and living loss (Kelly, 2008). The resolution of the liminal stage is evident by incorporating a new social role. For those respondents who came out in mid or later life, this was described as a second adolescence, to which many adapted and incorporated a new social identity. It is curious that the concept of liminality has not been employed as a lens with which to think about “coming out.” An extensive search of the literature suggests that no one has done so. Furthermore, this study suggests that the concept of liminal spaces can help us understand a particular phase—the between place—of coming out. It is in this most disrupted, albeit essential, phase when individuals might need the most psychosocial support. Given how important animals were during various liminal periods in respondents’

lives, the steady, non-judgmental presence of animals might also help individuals manage the stress that can be associated with the coming out process. That being said, Turner's conceptualization of rites of passage broadly and liminality, specifically, might limit our understanding of coming out into a stage-based process. It could lead us to reductively and falsely categorize a process that respondents suggest is recursive, life-long, and multi-dimensional.

Deep Ecology

The social work profession has a long-standing practice orientation to the ecological model, and as such conceptualizes individuals as being intertwined with multiple contexts. Bronfenbrenner (1979) provides the following definition of the ecological model:

The ecology of human development involves the scientific study of the progressive, mutual accommodation between an active, growing human being and the changing properties of the immediate settings in which the developing person lives, as this process is affected by relations between these settings, and by the larger contexts in which the settings are imbedded. (p. 21)

Within this model, the relationship between human and companion animal is understood as a "developing organic unit" (Bronfenbrenner, 1944, p. 75) that is reciprocal and changing.

Feminist and postmodern scholars have criticized Bronfenbrenner's model as descriptive and largely failing to consider values, oppression, and power dynamics embedded in transactional processes between systems. Deep ecology provides a mutualistic and emancipatory conceptualization of the ecological model (Ungar, 2002). Deep ecology is concerned with symbiosis, the interdependency between all aspects of an ecosystem, and the intrinsic value of all parts of an ecosystem. Ungar (2002) explains that "thinking about the world ecologically allows human beings to look more critically at human communities and, like the deep ecologist, to proclaim that diversity, complexity, and symbiosis are in our own best interest" (p. 486).

Relationships with companion animals share many qualities with conventionally understood attachments between people, yet these are relationships with living, non-human beings. Drawing heavily on the philosophy of Descartes and the Enlightenment, Western culture often separates humans from the non-human world, endorses a dichotomy between man and animal, devalues the non-human world, and effectively reduces animals to a category of “other” that have value only to the extent that they serve humans’ needs (Macaulay, 1996). Humans often define themselves by drawing contrasts between themselves and animals and staking a claim that human beings—or certain human beings—are superior because they are not like animals (Oliver, 2009). Categories of oppressed people, such as people of color and women, have been likened to animals as a way of justifying their exploitation (Oliver, 2009). LGBT individuals have also been likened to animals as a way of justifying their oppression; as such, animals and lesbian women, especially older lesbian women, are similarly rendered “other.”

As Oliver (2009) argues, “the animals who escape from these [Western] philosophies force us to re-think notions of humanity, animality, pedagogy, and kinship in ways that will have significant consequences for reconceiving our relationships to the earth, the environment, animals, and ‘ourselves’”(p. 22). To consider how animals might be both similar to and different from humans, and yet no less valuable, demands that we think about ourselves and our relationships with companion animals in ways that unsettle us.

Conclusion

This study explored the lived experience of older lesbian adults in a particular relational context, historically overlooked in social work—the human–animal bond—and contributes to two small and growing bodies of literature in the field of social work: LGBT aging and human–animal studies. The fact that the respondents identify as lesbian does not, in and of itself, confer special meaning on the human–animal bond. Clearly, however, the human–animal bond can help older lesbian adults develop ways of being and seeing themselves that might help buffer against the chronic strain of living in a heterosexist culture. What the respondents shared helps deepen our understanding

of the ways that animals can contribute to humans' development and psychological well-being regardless of sexuality.

This study introduces the concept of "relational ecology," which integrates and extends multiple existing theories that cross several disciplines. The respondents' life stories resonate with themes that emerged in prior research on the human-animal bond, for example, animals as family members. That being said, this respondent group has been subjected to an oppressed social status and varying levels of associated, chronic stress. The findings suggest that animals contribute meaningfully to the lives of this respondent group, that animals can help assuage emotional and physical pain, that people can internalize animals into an ever-developing sense of self, and that major developmental themes can be explored within the context of the human-animal bond.

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Children's Ideas about the Moral Standing and Social Welfare of Non-human Species

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Moral and social welfare issues related to humane treatment of animals confront children and continue to be important societal issues through adulthood. Despite this, children's moral reasoning about animals has been largely ignored. This paper addresses six questions concerning how children reason morally about non-human animals: (1) How do children think about the moral claims of animals? Is there a developmental progression in such reasoning? (2) How does moral reasoning about animals differ from moral reasoning about other life forms—plants and ecological systems? (3) What is the relation, if any, between children's moral reasoning about non-human animals and their moral reasoning about other humans? (4) How do child characteristics and environmental factors contribute to individual differences in children's moral reasoning about animals? (5) What is the relation between moral reasoning about animals and children's behaviors toward animals? (6) What is known about children's kindness toward and nurturing of animals—examples of prosocial reasoning and behavior?

Key words: animals, non-human species, children, moral standing, social welfare

No contemporary issue is more pressing than human treatment of other species and the natural world that they all share. Animal (henceforth, this term refers to non-human animal species) mistreatment, species endangerment and habitat threat demand our attention. The ecology of animal life is under siege from environmental degradation, global warming, and biodiversity depletion. These issues command headlines but remain recalcitrant problems resistant to real change. This is not surprising, given the complexity of such problems, requiring consideration of economic, demographic, structural, and sociological factors, among others. However,

increasingly, both scholars and public opinion are recognizing that an important influence on human behavior toward other species and the environment lies in human thinking about moral and social welfare issues. Human stances toward other living beings and environments flow from the moral claims (or lack thereof) they make. Therefore, it is important that we understand moral reasoning about other species, their ecological niches, and the environment that sustains them as well as humans.

According to Piaget (1965), Kohlberg (1976), Gilligan (1982), and Hoffman (2000), reasoning about the moral claims of others develops most rapidly during childhood, and once reaching its "mature" level, becomes relatively more stable. Until recently, these "others" have meant humans, reflecting a bias within the study of child development that has neglected children's connections with non-humans (Melson, 2001). Moral reasoning about human-human relationships may not generalize to human engagement with animals, plants, or nature. Knowledge concerning the development of moral reasoning about other humans remains sparse. Despite important contributions (Kahn, 1999; Kellert, 1997), the study of the "development of eco-morality" would benefit from further theoretically derived structure and empirically derived detail. ("Eco-morality" refers to moral reasoning related to non-human life forms and their ecological niches.) Therefore, this paper focuses on children's ideas about the moral and social welfare claims of animals as well as plants, animal habitats, ecology, and environmental issues.

Children's moral reasoning about animals is emphasized, for the following reasons: (1) From an early age, children view animals as other subjectivities, rather than objects, relating to them as living actors who have autonomy, intentionality, and feeling (Myers, 1998). As Myers and Saunders (2002) note, these characteristics, shared with humans, make animals potential targets of children's moral reasoning and behavior, eliciting expressions of just treatment, caring and concern. (2) Companion animals share most children's homes as "family members" (Melson, 2001). (3) Children's attachment to their animals is well documented, with links to emotional support (Bryant, 1985), empathy (Melson, Peet, & Sparks, 1992), and nurturing others (Melson & Fogel, 1996). (4) Despite

urbanization and environmental degradation, children everywhere have contact with wild animals, not only in zoos, aquariums and nature parks, but also in backyards, streets and around their homes (Melson, in press). (5) Animal symbols abound in children's media, stories, imagination and play, making animals important carriers of meaning, including moral meaning.

There are additional reasons to study moral reasoning as it relates to animals: (1) Adult views about animal welfare, animal rights, endangered species, and habitat protection may have roots in childhood. British university students who had companion animals growing up were more concerned about animal welfare as adults than were their peers without a animal-keeping history (Paul, & Serpell, 1993). (2) Children encounter debates about vegetarianism, use of animals in medical and non-medical research, animal rescue efforts and related animal moral dilemmas, as well as issues of environmental damage and species protection. Some evidence suggests that children are making complex judgments about environmental issues. In one study, 2nd and 4th grade children of farm workers judged pesticide exposure as morally wrong but nonetheless accepted it as a financial necessity for their families (Severson & Kahn, 2010).

Specifically, we explore the following questions: (1) How does children's moral reasoning about animals develop? (2) How does children's moral reasoning about animals differ from their moral reasoning about other life forms, such as plants, and about environmental and ecological issues, such as pollution, habitat protection and global warming? (3) What is the relation, if any, between children's moral reasoning about non-human life forms and other people? Do children generalize from their understanding of ways to treat other humans to the treatment of animals, for example? Or, does thinking about animal rights and welfare prompt moral concern about other humans? Another possibility is that moral reasoning may be compartmentalized, with no consistent relation between thinking about animals and thinking about people. (4) What accounts for developmental change in moral reasoning about animals? Stage theories of attitudes toward animals (Kellert, 1985), values concerning nature (Kellert, 2002), and reasoning about ecological issues, such as pollution (Kahn, 1999, 2002) must

explain the mechanisms of developmental change, whereby children "advance" from one stage to another. (5) What is the relation between children's moral reasoning about and behavior toward animals? Developing a moral stance toward human relations with animals requires navigating a thorny, often contradictory terrain. Animals as "pets" are loved and cared for as "family members," but other animals are eliminated as pests, consumed for food and clothing, and used as workers, aides, and research subjects. Some (Braithwaite & Braithwaite, 1982; Herzog & McGee, 1983) suggest that societal attitudes toward animals are inherently diverse, contradictory, and irrational. What then might predispose children to engage in behaviors consistent with, or at variance with, their moral reasoning about animals? This has obvious implications for children's behaviors related to animal welfare, conservation, and species protection. (6) What is the relation between children's moral and pro-social reasoning about animals? Children's thinking about good, kind, and exemplary treatment of animals, tapping ideas about generosity, altruism, and helping, addresses prosocial reasoning (Eisenberg & Fabes, 1998) about other species. This type of reasoning, termed "discretionary moral judgment" by Kahn (1999), refers to worthy or virtuous actions that while not required, are praiseworthy. Since, as we noted above, behaviors toward animals are so complex and variously justified, distinctions between obligatory and discretionary moral judgments may be challenging. For example, is it praiseworthy but not obligatory to be a vegetarian, eating no animal products? On the other hand, is vegetarian eating a moral obligation (Turiel, 1998)? Pro-social reasoning about animals is at the heart of debates about species protection, conservation, and environmental protection.

Descriptions of Children's Moral Reasoning about Animals

Do children view animals as having moral claims? Adults would distinguish among living dogs, a stuffed dog, and a picture of a dog in assessing moral standing. Actions that might be morally wrong—damaging, discarding—with respect to the living dog would not be viewed in the same way toward a

stuffed dog or picture of a dog. There is convergent evidence that children do view living animals—pets, domestic animals and wild animals—as having moral standing. Moreover, like adults, children distinguish living animals from non-living analogues, such as robotic animals, in assessing moral claims (Melson et al., 2009). However, the developmental progression of such views is unclear.

Myers' (1998) observations and interviews with preschoolers concluded that they accorded a variety of animals status as living subjects with intentions and emotions. These views of animals led children as young as three years of age to be concerned about the animals' well-being and to feel they deserved just and fair treatment, the "should" of moral standing. However, in another study, when preschoolers were directly asked about the moral standing of a stuffed dog and a robotic dog, most children accorded them moral claims as well (Kahn, Friedman, Perez-Granados, & Freier, 2006). For example, 69% of preschoolers said it was "not OK" to hit a stuffed dog, and 73% said it was "not OK" to hit a robotic dog. However, in this study, children were not asked about a living dog. When Melson et al. (2009b) directly compared seven- to fifteen-year old children's views of the moral standing of a living dog with that of a robotic dog, the former was significantly more likely to be viewed as having moral standing. Among these children, 85% said it was "not OK" to hit the living dog, while 78% said it was "not OK" to hit the robotic dog. While fewer children endorsed moral claims for the robotic dog, a relatively high percentage of children accorded the robotic dog moral standing in this question.

Other scholars suggest that moral reasoning about animals remains egocentric until adolescence. Kellert (1985), in his studies of attitudes toward animals, finds that a "moralistic" attitude emerges only in the teen years. Dunlap (1989) used Kohlberg's stage theory to assess adolescent boys' reasoning about moral dilemmas involving animal treatment. She found that 12–14-year-olds used less advanced moral reasoning than 16–18-year-olds, lending support to the hypothesis that moral reasoning about animals continues to develop through adolescence. Most boys in the 12–14-year-old group reasoned at stages two and three, while those in the 16–18-year-old group

were more likely to reason at stages three and four. (Stage two, "individualism and instrumental exchange," focuses on acting to meet one's own interests but also letting others do the same, in a fair or equal exchange. Stage three, "mutual interpersonal relations," emphasizes concern for those close to you and maintaining trusting and loving relationships with them. Stage four, "social system and conscience," focuses on upholding social order and contributing to society.)

Kahn's work on moral reasoning about environmental issues (1999) may help us integrate these divergent results. In a series of cross-cultural studies, with children ranging from 1st grade to college age, Kahn assessed whether or not certain environmentally damaging behaviors, such as water and air pollution, which also harm animals, were viewed by children as morally wrong. While he found that most children at all ages viewed polluting as morally wrong, children's reasoning about *why* it was morally wrong showed a developmental progression. With advancing age, children were more likely to use what Kahn calls "biocentric" reasoning, defined as the view that nature (including animals) has intrinsic value and moral standing apart from human needs. However, such biocentric reasoning occurred only in a minority of children, even among adolescents. Most children justified environmental protection based on human needs, a view Kahn terms "anthropocentric." This distinction between judgments of moral standing and reasons for morally obligatory behaviors may help us understand developmental differences in moral reasoning about animals.

In one study (Melson et al., 2009b) of children's reasoning about an unfamiliar friendly dog, *Canis*, with whom each child had a short play session, 7–15-year-olds strongly endorsed the moral standing of *Canis*. Each child was asked six questions about treatment of *Canis* (see Table 1). Questions 1 through 5 posed a series of increasingly harmful actions (from ignoring a distress signal to destroying the animal), while Question 6 asked about hitting the dog. For each question, the child was asked if it was "OK" or "not OK" to engage in the harmful action. Following each question, the interviewer prompted the child with "Why?" "How come?" in order to elicit the child's reasons or justifications for his or her answer ("OK," or "not OK").

Table 1. Questions and justification examples related to moral standing of Canis, an unfamiliar dog (Melson et al., 2009b)

Moral standing questions

If Canis were whimpering, would it be OK or not OK to ignore Canis?

If Canis' leg breaks, is it OK or not OK not to fix it right away?

If you decided you did not like Canis anymore, is it OK or not OK to give Canis away?

If you decided you did not like Canis anymore, is it OK or not OK to throw Canis in the garbage?

If you decided you did not like Canis anymore, is it OK or not OK to destroy Canis?

Is it OK or not OK to hit Canis?

Justifications

Anthropocentric: Reasoning from impact on child's own feelings or well being.

Example: *"It's not OK to hit Canis, because I would feel bad."*

Biocentric: Needs of animal apart from human needs.

Example: *"It's not OK to hit Canis, because that would hurt him."*

Biocentric—*isomorphic*: Reasoning from similarity to humans.

Example: *"It's not OK to hit Canis, because it's just like hitting a person."*

Biocentric—*transmorphic*: Acknowledging similarities and differences between animals and humans and despite differences, according animal moral standing.

Example: *"It's not OK to hit Canis, because although he is a dog and not a person, it still would not be right."*

Assessing children's moral reasoning required taking into account both their "OK; not OK" answers as well as their justifications. The initial "OK" or "not OK" answers indicated whether or not the child considered Canis as having moral standing. The follow-up justifications revealed the basis for that moral standing. Would children argue for moral treatment of Canis because of their own needs (an anthropocentric argument), or would they argue in terms of Canis' rights apart from human needs (a biocentric argument)?

On average, over the six questions, children affirmed the

dog's moral standing (by stating it was "not OK" to harm the animal in ways shown in Table 1) 86% of the time ($SD = 12\%$), with no significant variation by age group or gender. When justifications were analyzed, all but one child mentioned a moral obligation toward the dog at least once. The median number of times appeals to moral obligation occurred was six, with a range from once to 11 times, in the course of an individual interview. Both anthropocentric and biocentric reasoning occurred across all ages.

Examples of each type of reasoning help illustrate these categories. As an example of anthropocentric reasoning, one child felt it was "not OK" to hit Canis, because "then Canis wouldn't want to play with me." Another child also answered: "not OK" to this question, and then explained: "Because Canis would feel bad." This response focused on the dog's needs and its right to be free from harm for its own welfare. A third child, after indicating it was "not OK" to hit Canis, insisted, "It's *wrong* to hit a dog" (child emphasis), indicating that hitting this dog would violate a moral injunction against hitting any dog.

In summary, Kahn's (1999) categories for moral reasoning regarding the environment map easily onto moral reasoning about a living animal such as a dog. However, we should be cautious about generalizing from these responses. Canis was a friendly calm dog, with whom children had an opportunity to interact. Moreover, all the children in this study (Melson et al., 2009a) had companion animals at home, and most had (or had had in the past) a dog. Within that context, viewing possible harm to Canis as a moral issue might not seem surprising. However, research shows that wild animals are also viewed through a moral lens. Kahn's (1999) interviews with children (from 1st grade to college age) in varied cultures (Portugal, Houston, and Brazil) found that overwhelming majorities cared about harm to wild animals such as birds and fish (as caused by environmental actions such as polluting waterways) and interpreted such actions as morally wrong. In fact, when specific biocentric reasons for not polluting were examined, the intrinsic value of wild animals was the most common.

Nonetheless, there is reason to believe that moral reasoning may differ depending on the specific species under consideration. Studies of adults' attitudes toward human uses of

animals (e.g., hunting, medical research) find that attitudes vary by species (Knight, Nunkoosing, Vrij, & Cherryman, 2003; Plous, 1993). Adults consider a species' similarity to humans, its capacity to suffer pain and its physical attractiveness in making decisions about animal welfare issues. In addition, an evolutionary perspective suggests that certain wild animals, such as spiders and snakes, as well as large predators, would elicit children's fears, since such animals posed a threat in the environment of evolutionary adaptiveness (Heerwagen & Orians, 2002). Studies of children's fears support this hypothesis (King, Hamilton, & Ollendick, 1998). Species that elicit fear and avoidance may be less likely to be accorded moral standing. Even when they are, children may be less likely (than with dogs, for example) to reason biocentrically about them. Another species difference that may be salient for moral reasoning is the degree of emotional or phylogenetic closeness to humans. Dunlap (1989) tested this hypothesis in examining moral reasoning about a dog (emotional closeness), a chimpanzee (phylogenetic closeness), and a farm turkey (neither emotional nor phylogenetic closeness). She found, as predicted, that moral reasoning about the dog and chimp was more advanced than reasoning about the turkey.

Historical studies of attitudes toward wild animals (Oswald, 1995; Varga, 2009) provide further evidence that species differences affect moral reasoning. In Europe and North America, the nineteenth century view was that wild animals, particularly wolves and bears, were savage threats to humans, had no rights and could be mistreated, killed, indeed wiped out with impunity. Books and toys for children celebrated hunting, the extermination of species such as wolves, and "animaltainment," such as bear pits and organ grinder monkeys. By the mid twentieth century, however, the threatening bear had become the loveable teddy, and children's books depicted wild animals now as hapless victims of savage humans (Melson, in press). Thus, a historical perspective shows that some species may become singled out as deserving special moral regard and protection—pandas, whales, and dolphins come to mind in contemporary discourse. Other species may become viewed as threats to humans and placed outside the realm of moral standing. We currently lack empirical evidence concerning the degree to which children absorb these historical and cultural moral messages and reflect them in childhood reasoning.

Moral Reasoning about Animals in the Context of Reasoning about Plants and Ecological Systems

Plants. Children's moral reasoning about animals may differ from that toward plants and toward ecology or nature. Underlying the judgment of moral standing are children's judgments that a being is alive, autonomous, sentient, intentional and feeling. Studies of children's attributions of aliveness or animacy document that by age four children attribute aliveness to people and animals but not to vehicles or other inanimate objects. Young children group plants with inanimate objects as "not alive" (Richards & Siegler, 1984). Only by age eight do children understand that plants too are alive (Coley, Solomon, & Shafto, 2002). This later understanding may occur because: (1) Plants lack autonomous movement, a salient feature of aliveness for young children; (2) Children reason from humans to animals in understanding biology (Carey, 1985); and (3) Culturally, plants and trees occupy uncertain moral terrain. Although some plant life—giant redwoods, for example—may be seen as worthy of moral protection, most plants are viewed as outside the domain of moral regard, at least in contemporary Western cultures.

Ecological systems. Moral reasoning about ecological systems or issues may be more challenging than reasoning about animals or even plants. Children's biological knowledge about ecological systems lags behind their knowledge about individual animals (Leach, Driver, Scott, & Wood-Robinson, 1996; Munson, 1994). Myers, Saunders, & Garrett (2004) found developmental trends in children's understanding of the ecological and conservation needs of wild animals. Children readily understood animals' basic biological needs, such as food and water. With increasing age, however, children were more likely to recognize that animals needed appropriate habitat, space, and shelter (ecological needs) as well as unpolluted air and water, a protected area, and prohibitions against being hunted or disturbed (conservation needs). Understanding the needs of animals is likely to underlie moral reasoning about meeting those needs. Taken together, these findings suggest that moral reasoning about the ecological systems within which animals are embedded is likely to be more difficult than reasoning about individual animals. Reasoning at the level of a network

of interrelated individuals and environments—ecology—should be more cognitively challenging than reasoning at the level of an individual.

Children's Moral Reasoning about Animals and about Humans

While there are few direct comparisons of children's human-directed and animal-directed moral reasoning, evidence suggests both differences and similarities. With respect to differences, when Dunlap (1989) compared adolescent boys' moral reasoning about parallel dilemmas involving other humans versus animals (dog, chimp and turkey), she found that, on average, boys reasoned at higher levels, using Kohlberg's stages, when considering a moral dilemma involving another human. Similarly, Fonseca et al. (2011) found that school children in science classes reported a hierarchy of moral claims, with humans more important morally than animals. Another line of research has found that human-directed empathy and animal-directed empathy are not related (McPhedran, 2009; Patterson-Kane & Piper, 2009). Since empathy underlies both moral reasoning and behavior, these findings lend support to a "difference" argument.

At the same time, there is evidence that children draw on their understanding of human relationships when they reason about animals. As noted earlier, children generalize their biological understanding about humans to animals (Carey, 1985). Kahn (1999) identified two types of biocentric moral reasoning—*isomorphic* and *transmorphic*—about environmental problems, such as air and water pollution. In isomorphic biocentric reasoning, the child identifies a correspondence between humans and other natural entities, and uses that similarity to justify moral treatment. In transmorphic biocentric reasoning, the child recognizes both similarities and differences between humans and other biological entities, but holds that despite such differences, these non-humans deserve moral treatment. Thus, in both isomorphic and transmorphic biocentric reasoning, the child takes account of human needs and rights, but does so in order to justify the same moral rights for the non-human.

In the Melson et al. (2009b) study discussed earlier, examples of isomorphic and transmorphic reasoning were found,

showing that children used their understanding of the moral standing of humans in thinking about that of an animal, such as the dog Canis. As an example of isomorphic biocentric reasoning, consider the answer of the following child to the question about hitting Canis: "It's not OK to hit Canis, because ... well, how would you like it, if someone hit you?" Here, the child is explicitly drawing an analogy between human and dog reactions to being hit. If it is morally wrong to hit the interviewer, then by analogy, it is morally wrong to hit Canis. Across the sample of 72 children, 411 instances of such analogical reasoning (Gentner, 2005; Goswami, 2001) were identified. All but two children used analogical reasoning, drawing similarities between the animal and humans, at least once during the interview. The number of instances ranged from one to 16, with a median of five (Melson et al., 2009b). Transmorphic reasoning occurred infrequently, but the following provides an example, in response to the question: "If you didn't like Canis anymore, would it be OK or not OK to give Canis away?" Child: "Yes, it's OK." Interviewer: "Why? How come?" Child: "Because, well it's not like a person, you could give a dog away, but only if you could find a better home, and Canis would be happier." Here, the child recognizes that while there are differences between the animal and a person, the dog's welfare deserves paramount consideration.

The connection, if any, between humans and animals as targets of moral reasoning has important educational and policy implications. Humane education efforts, focused on the treatment of animals, are frequently justified, with little empirical evidence, as also enhancing empathy toward peers (Daly & Suggs, 2010) or reducing school violence (Favor, 2010). Historically, the animal welfare and child welfare movements were intertwined, with the assumption that advocacy of one would promote the other (Melson, 2001).

Influences on Change in Moral Reasoning

As noted above, age differences in moral reasoning have been found in a number of studies. If moral reasoning about animals reflects general features of thinking about relationships, developmental change should be expected. Kohlberg (1976) documented an age-related progression in stages of

moral reasoning about human dilemmas, and Kahn's and Kellert's examinations of environmental moral reasoning also found age-related stages. These changes reflect both underlying cognitive maturation and age-related social experiences.

Among the more important social experiences may be the child's relationship with family animals. Elementary school-age children in the U. S. with strong attachment to their animals score higher on measures of empathy toward peers (Daly & Morton, 2006; Melson, Peet, & Sparks, 1992), while a study of Chinese school children found that pet attachment was positively associated with willingness to take care of others (Zhou, Zheng, & Fu, 2007). These studies did not directly measure moral reasoning about animals, however. Empathy and willingness to care for others are related to, but not the same as, moral reasoning. One study that directly measured moral reasoning about treatment of an animal (Melson et al., 2009a) found that a child's attachment to his or her companion animal at home predicted moral reasoning about an unfamiliar dog, *Canis*. Children more attached to their pets accorded *Canis* more moral standing, viewing, just, fair and caring treatment of *Canis* as morally obligatory.

It is at present unclear why attachment to one's companion animal would be linked with greater empathy and more advanced moral reasoning about animals. One possible mechanism might be the role that animals play in family interactions, including discussions about moral issues. Tannen (2004) noted instances of parents using family dogs as "conversational resources" (speaking as, to, or about the dog) when teaching children about values. In addition, family animals provide many instances of "teachable" moments for parents. Robert Coles (1997), reflecting on how experiences with animals can build a child's moral intelligence, recounted how he had intervened to prevent his young son from playing too roughly with their dog:

The dog in his own way was a teacher, one who had helped all of us come to terms with the meaning of understanding, to put oneself in another's shoes, to see and feel things as he, she, or it does. (p. 84)

The importance of animals as part of the dynamics of family systems is further underscored in studies of animal abuse: children of animal-abusing parents are more likely themselves to exhibit behavior problems and be at risk for harming animals (Melson, 2001). Another pathway by which a companion animal may help promote moral reasoning about animals is through an animal's distinctive appearance, behaviors and emotions. Relating appropriately to an animal requires attending to, and understanding a perspective very different from that of the child. This may promote empathy and role-taking ability, both of which underlie moral reasoning and behavior (Melson, 2001). Several retrospective studies have linked childhood history of petkeeping and experiences with animals with young adults' concern for animal welfare (Miura, Bradshaw, & Tanida, 2002; Paul & Serpell, 1993). While the limits of retrospective data are well known, these findings support the hypothesis that childhood experiences with animals also may be predictive of later adult moral reasoning.

Another social experience that may impact moral reasoning is discussion about moral dilemmas. Kohlberg (1976) emphasized that movement from lower to high stages could be facilitated when children had guided peer discussions about situations involving just and fair treatment of others. In addition to peers, parents influence moral reasoning. Parents who discuss real-life moral situations, such as those involving honesty and cheating, using questions, warm emotional support and higher level reasoning have children who, two years later, reason about moral dilemmas at a higher level (Walker & Taylor, 1991). Would such social experiences influence children to reason morally about animals and animal welfare? Many humane education efforts assume that adults, and to a lesser extent, peers, can help children reason morally about animal welfare issues. Humane education curricula that explicitly teach respect for all living things (thereby linking humans and other animals) may prompt children to develop more mature moral reasoning regarding treatment of animals. However, there have been few tests of this hypothesis. A notable exception is Ascione's (1992, 1997) year-long evaluation of the People and Animals humane education curriculum developed by the National Association of Humane and Environmental Education (NAHEE). Elementary school age children who

participated in the program scored higher in empathy (largely toward humans, although two questions asked about animals) than did similar children in a control group. In addition, first- and fourth graders in the program (as compared to their controls) also reported more humane attitudes—for example, answering no to questions like: “Should you spank a cat to teach it to mind?” and “Do you think it’s fun to break up a spider’s web?” A year after the program’s end, fourth-graders continued to express more humane attitudes, according moral standing to animals, than did the control group. However, measurable changes in humane attitudes failed to materialize for second- and fifth-graders.

It is unclear what components of a humane education program might stimulate moral reasoning about animals. Kohlberg (1976) argued that discussion that promotes “disequilibration” of moral stage thinking is most effective in helping a child reach a higher level of moral reasoning. By this he meant that discussion of a moral dilemma should challenge the child’s current level of moral reasoning and thereby prompt the child to consider new perspectives and arguments. Such “disequilibration” might naturally occur when children have an opportunity to interact with living animals as part of a humane education program. An evaluation of such a program for first graders (Nicoll, Trifone, & Samuels, 2008) found that when children were encouraged to role-play and do imaginative exercises with living animals, they scored higher on measures of animal-directed empathy (as compared to peers who had a print-based curriculum with no animal visits). More fine-grained evaluation of humane education programs might help us identify such elements and provide a test of Kohlberg’s theory as applied to moral reasoning about animals.

Moral Reasoning and Moral Behavior

Very little is known about children’s moral reasoning about animals in relation to their behaviors. Research and theory related to children’s moral development with respect to human relationships may be useful for hypothesis generation. Rest (1986) argues that moral judgments about other humans are not enough to predict moral actions. One must add recognition of how one’s actions affect others—what Rest (1986) calls “moral sensitivity,”—the desire to take action, (“moral

motivation”), and enduring predispositions to moral behavior, (“moral character”). In general, children must go beyond moral judgments, and in applying them to a specific situation, the child must also: (1) recognize that this is a moral situation; (2) feel that it is important relative to other considerations; (3) feel moral emotions, such as empathy; and (4) feel competent to act effectively (Jordan, 2007).

Many factors influence these intermediate steps between judgment and action. Some of these variables tap individual differences among children, while others address children’s environments. Among those child factors that appear to mediate the link between moral reasoning and moral behavior are: (1) temperament; (2) behavioral problems; and (3) processing of interpersonal and socio-emotional information. Specifically, children who are temperamentally inhibited (shy) are less likely than uninhibited children to violate a moral injunction, such as cheating, that they had previously agreed was morally wrong (Malti, Gummerum, Keller, & Buchmann, 2009). Highly aggressive, “hard-to-manage” preschoolers are more likely than their non-aggressive peers to reason egocentrically about moral situations involving harm to other children (Dunn & Hughes, 2001). Children with lower moral motives are more likely to violate a moral prohibition against cheating that they previously endorsed (Malti et al., 2009). (As an example of a low moral motive, consider the child who states it is wrong to steal, but who feels that a thief, after stealing, would feel good.)

When one considers environmental factors that may mediate moral reasoning and moral behavior, the nature of the moral dilemma may be important. Many studies examining the link between moral reasoning and moral behavior toward humans compare children’s responses to general hypothetical moral dilemmas (to assess moral reasoning) with children’s behaviors in specific real-life situations, often involving a temptation to violate a moral injunction, such as one against stealing, hitting, cheating, etc. In such studies, there is generally a weak or non-existent link between reasoning and behavior. However, when children’s reasoning and behavior are assessed about the same real-life situation, there is greater consistency between reasoning and behavior (Xu, Bao, Fu, Talwar, & Lee, 2010). Thus, when children see how a general moral principle

applies in a concrete situation, they are more likely to behave morally. Parents and peers also are important. A parenting style that encourages empathy (Spinrad et al., 1999) as well as challenging peer discussions (Walker, Henning, & Krettenauer, 2000) can promote both more advanced moral reasoning and moral behavior. In a rare study of family predictors of children's humane attitudes (Bryant, 1990), eight-to-thirteen year olds who felt that their parents were emotionally available and responsive also endorsed more humane attitudes toward animals.

In summary, we may predict that consistency between reasoning and behavior is enhanced when: (1) child temperament is relatively low on aggression and high on behavioral inhibition and impulse control; (2) measures of reasoning and behavior are aligned; and (3) parents and peers encourage empathic understanding and use "disequilibration" in their discussions about animals.

Pro-social Reasoning and Behavior toward Animals

Many social issues involving human treatment of animals are framed as pro-social, rather than moral. This is exemplified in humane education materials, such as *Kind News*, a "for kids" newspaper distributed by the National Association for Humane and Environmental Education. Rather than presenting proper pet care, species protection and animal welfare as moral imperatives, *Kind News* exhorts children to "be a friend to pets," reminding children that "good pet owners care for their pets as if they were people." Similarly, *Kind News* urges protection of wild animals and environmental resources as behaviors that good and responsible people do. Environmental educators, advancing "biophilic education," stress both the interconnections of humans, animals and environment, as well as an orientation of "bonding, caring and sharing," (Cajete, 1999) designed to foster in children a stewardship identity toward all living things. Surveys of teachers in elementary school classrooms find that educators believe the presence of live animals in the classroom helps to promote empathy (Daly & Suggs, 2010).

Despite this emphasis on treatment of animals as pro-socially desirable and praiseworthy (rather than morally imperative), research on children's pro-social reasoning and behavior

toward animals is lacking. Here too, research related to pro-sociality toward humans (sharing, helping, donating, kindness and nurturing) may guide hypotheses applicable to relationships with animals. Kindness and nurturing are especially relevant for understanding pro-sociality toward animals, for a couple of reasons: (1) humane education emphasizes caring for animals in terms of kindness; (2) The needs of distinct species and their dependence upon humans make nurturing a more relevant prosocial behavior than sharing or donating.

Reasoning about kindness and nurturing. As with moral reasoning, there is a developmental trajectory in the understanding of kindness. Kindergarten age children believe that any act that benefits another—for example, a taller child getting down a toy from a high shelf that a shorter child is unable to reach—is kind, even if the act is unintentional, accidental, coerced or rewarded. Only gradually with advancing age do children differentiate acts by motives, and consider only those acts motivated by a desire to benefit another to be truly kind (Baldwin & Baldwin, 1970). This gradual understanding of kindness is consistent with other evidence that pro-social reasoning is largely learned through acquiring social norms, although some young children show an early predisposition to pro-sociality (Eisenberg & Mussen, 1989). Because of this, various interventions have been developed to encourage kindness in children to others (i.e., other humans). For example, Zeece (2009) advocates picture books with kindness themes (interestingly, many with animal characters), while the Kindness Intentions Program for preschool classrooms focuses on giving children recognition for spontaneous acts of kindness they perform toward their classmates and also observe in other children (Tannock, 2009). However, evaluation of such interventions is currently lacking.

Predictors of pro-social and nurturing behavior. Any program designed to teach pro-social norms and behaviors must take into account that influences on kindness and nurturing are complex. As with moral action, pro-social behavior may be predicted from both child and environmental factors. Consistent gender differences have been found, with girls more likely than boys to show sympathy, compassion, and help toward others (humans) (Spivak & Howes, 2011). Children are more likely to help or care for others when they understand the

need to do so, feel competent that they can help, and are not distressed themselves at witnessing the distress or needs of another (Trommsdorff, Friedmeier, & Mayer, 2007). Children who are socially competent with peers—preschoolers skilled at social pretend play, for example—spontaneously engage in more acts of sharing, cooperation, kindness, and empathy toward peers than do less socially skilled classmates (Spivak & Howes, 2011).

Among the environmental factors predicting pro-social behaviors, parenting style and modeling have been identified. Parents who emphasize nurturing and caregiving, involving their older children in the care of younger ones, are more likely to have children who display more empathy and concern for others as well as more motivation and skill in caregiving (Whiting & Edwards, 1988). Indeed, in cross-cultural studies that observe children's everyday social behaviors toward humans across multiple contexts—family, kin network, neighborhood—and not just in classrooms of peers, pro-social behaviors of caring and helping are most often directed toward younger children, especially infants and toddlers (deGuzman, Carlo, & Edwards, 2008).

Although information on nurturing and caregiving toward animals—usually companion animals—is sparse, it appears that when animals are present in a home, children do engage in caregiving toward them. Moreover, since opportunities for and encouragement of nurturing others are rare in childhood, at least in Western industrialized societies, nurturing animals makes up a large proportion of childhood caregiving experiences. For example, analysis of daily activity records of a nationally representative sample of U. S. animal-owning families with children finds that, on average, children who have younger siblings spend about 10 minutes daily caring for pets, but only about 2 minutes caring for a younger sibling (Melson, 2001). Similarly, in a sample of German 8- to 10-year olds with animals at home, 25% reported sole responsibility for companion animal care, while 50% shared animal care with other family members (Rost & Hartmann, 1994).

In addition, gender differences in nurturing other humans make animal-directed nurture more important. From about age five, children view nurturing and caregiving of young, dependent humans as feminine, and hence, at about the same

time, girls show more motivation to nurture human young, and in fact, engage in more nurturing behaviors toward them (Melson, Fogel, & Toda, 1986). By contrast, there are no gender differences in ideas about nurturing companion animals (Melson & Fogel, 1989); boys and girls view companion animal care as "gender-neutral," not associated with either the feminine or masculine sex role. Moreover, there are no consistent gender differences in observed nurturing behaviors toward such animals (Fogel, Melson, & Mistry, 1986). Thus, both the widespread presence of animals in homes with children, combined with frequent caregiving open equally to boys and girls, make companion animal care a potentially important "training ground" for developing nurturing motivations, skills, and experiences. Unfortunately, prospective longitudinal studies designed to test this hypothesis are lacking.

Conclusion: Understanding the Moral Terrain of Human-Animal Relationships

This examination of children's moral reasoning toward animals leads to some tentative conclusions: (1) From an early age, children accord animals moral standing and reason about them in terms of moral and social welfare issues; (2) There is developmental change in moral reasoning about animals, but the nature and "drivers" of that change are not well understood; (3) Among many influences, relationships with companion animals appear to play an important role in how children think about moral issues related to animals; (4) Links between moral and pro-social reasoning about animals, on the one hand, and corresponding behaviors, on the other, are complex, with both individual child characteristics and social factors playing a role.

What might future theory and research on children's moral reasoning about animals look like? The following suggestions are offered in the spirit of encouraging integration of issues of morality and social welfare about non-human species into mainstream discourse about morality in human-human relationships.

- (1) Develop studies that directly assess moral reasoning

about animals in the context of reasoning about other life forms, such as plants, other humans, and ecological systems. Direct comparisons within the same study, using parallel measures, are most useful in determining both similarities and differences. The study by Dunlap (1989) stands out as a model of this approach.

(2) Use fine-grained measures of moral reasoning that distinguish recognition of moral standing from underlying reasoning about the basis for that moral standing. Studies by Kahn, Melson and their colleagues, discussed earlier, can provide the basis for further development of such measures. Because verbal skills are limited in young children, interview methods should be supplemented with careful observation of children's spontaneous behaviors and remarks, as Myers (1998) has done.

(3) Draw on the extensive literature on the development of moral and pro-social reasoning about humans to test hypotheses concerning a developmental progression with respect to thinking about animals. Too often, scholars of the human-animal bond have worked in relative isolation from social scientists investigating parallel questions within human relationships.

(4) Use theory and research on moral and pro-social reasoning about animals to inform educational interventions aimed at increasing animal welfare. For example, humane education programs can be designed to directly test predictions, based on Kohlberg's theory, that challenging discussions among peers would stimulate moral reasoning to more mature levels. As another suggestion, research on the importance of parents as "drivers" of moral reasoning and behavior (with respect to both other humans and animals) might lead to more home-based, parent-centered curricula or educational materials.

In general, children are part of the world of animals, and that world is full of moral and ethical questions. How children answer those questions will affect how all life forms on the planet will fare in the future.

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Expanding the Ecological Lens in Child Welfare Practice to Include Other Animals

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Sixty-nine million U.S. households have companion animals and most of these families consider these animals to be family members. Research shows that children have powerful emotional connections with animals that can be both beneficial and harmful. Considerable research findings report that violence against animals often co-occurs with, indicates, or predicts other forms of family violence, including child abuse. A companion animal may be an abused child's confidante, and separation from that animal through foster care may be a source of stress and grief for that child. Child welfare agencies are slowly acknowledging some animal-human relationships, especially in regard to animal abuse and family violence, yet professional acceptance of the significance of animals in the lives of children is often piecemeal. Being a meaningful part of the family system means that including questions and observations about the past and current presence of animals in child welfare households, the meaning those animals have for each family member, their care, and whether any of them have been hurt or killed is important to effective family-centered practice. This article discusses how taking a more ecological approach by consciously integrating animal-human relationships into child welfare practice can help caseworkers make a more accurate and useful assessment of child safety and well-being.

Key words: child welfare, human-animal bond, family violence, animal-assisted interventions

Relationships with animals are especially common among children (Ascione, 2005; Melson, 2001). They may manifest themselves negatively in animal abuse as well as positively in the protective effects of bonding with an animal companion or responding to animal-assisted activities (AAA) and therapy (AAT) (inclusively referred to as animal-assisted interventions, or AAI). A considerable body of research supports the

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powerful relationships between children and animals that are beneficial as well as harmful to both. Companion animals may assist children in feeling a sense of security and unconditional love (Melson, 2001; Risley-Curtiss et al., 2006a). They may also contribute to a child's cognitive and language development (Melson, 2001) as well as have a calming effect and aid in stress reduction (Hart, 2010). Companion animals, however, can also be victims of human cruelty, with evidence of associations between animal abuse, child maltreatment, domestic violence, and/or increased criminality (Ascione, 2005; DeGue & Dillo, 2009). Children who witness animal abuse are more likely to abuse animals, as are children who have been physically or sexually abused (Ascione, 2005). Animal abuse by children is often the first indicator of a diagnosis of conduct disorder (Dadds, 2008).

More than 70% of U.S. households with minor children have companion animals (American Pet Products Manufacturers Association, 2005/2006). Therefore, many of the families that child welfare agencies serve have animals. Research indicates that the vast majority of these families consider their companion animals to be family members (Brookman, 1999; Risley-Curtiss, Holley, & Wolf, 2006b). Since animals are part of most families' ecologies, as social workers it seems appropriate to include them in family-centered practice.

The purpose of this article is to support a more comprehensive integration and application of animal-human relations (AHR) into child welfare practice. I do this by summarizing relevant literature regarding three critical areas of our relationships with animals and providing concrete suggestions for a holistic integration of AHR into child welfare practice.

Theoretical Perspectives

Several theoretical models of practice support the inclusion of AHR in child welfare work. These include ecological-systems theory, family-centered practice, and the strengths perspective (Arkow, 2007; Risley-Curtiss, 2010a).

Ecological-systems and family-centered approaches call for assessing and treating children and families within the context of their own environments. Given that animals are part of many clients' ecologies, asking about the presence of

nurturing or dangerous animals or incidents of animal maltreatment in the course of doing assessments is certainly appropriate.

The strengths perspective encourages us to see our clients as resilient persons with resources to assist them in healing. It is our job to identify these strengths and resources. Positive AHR can be protective factors for children and adults in violent homes, and they also have the potential for helping traumatized children and their families through AAI.

In none of these practice models has acknowledgment of AHR been widely accepted. When abuse of animals in a child's ecosystem, or abuse of animals by the child, have been discovered, it is usually by chance rather than through formal intake or assessment protocols (Montminy-Danna, 2007). For example, in some instances it may be discovered after a foster child has harmed a foster family's companion animal.

Aspects of AHR Critical to Child Welfare

There are three aspects of AHR that, if taken into consideration, can enhance child welfare practice: (1) when kept as pets, companion animals are usually considered to be family members and are thus part of the family system; (2) acts of animal abuse committed by children or adults are deviant behaviors indicating a need for mental health services, as well as being a red flag for the exploration of potential child victimization and violence against other humans; and (3) the protective impact animals can have on the well-being of children means that including animals in some child welfare interventions may be beneficial. These areas are very much intertwined with each other.

Animals as family. Keeping companion animals is a universal phenomenon, and in the United States approximately 69 million households have a companion animal, including 90.5 million cats and 73.9 million dogs (American Pet Products Manufacturers Association, 2005/2006). The majority of those with companion animals consider them family members. Risley-Curtiss et al., in two different studies on ethnicity and companion animals, found that 97% (2006b) and 87% (2006a) of participants agreed that their pets are members of their families. For example, Roz explained the family nature of the relationship in terms of her pet's devotion to people:

She was ...very much so a member of the family, and it was so wonderful. Like when you come home from being tired and so stressed out from work and there would be Sparkles greeting you at the door, smiling and so happy to see you." (Risley-Curtiss et al., 2006a, p. 441)

The Pew Research Center (2006) asked pet owners if they felt close, in-between, or distant to their dog, cat, mother and father; more respondents felt close to their dogs (94%) than felt close to their mothers (87%) or fathers (74%). Dog owners, in an earlier study by Barker & Barker (1988), also reported feeling closer to their dogs than to any human family member. Human family members may talk to, and confide in, their animal family members, seeing them as a source of comfort and constancy: "When I was by myself, he [her cat] always knew when to come and sit on my lap—just sit there while I was watching TV. ... When I was [feeling sad], he was always there, too" (Risley-Curtiss et al., 2006a, p. 438). Another survey found that 52% of those with companion animals felt their pets listened to them better than their spouses or significant others (American Pet Products Manufacturers Association, 2003). "We often overlook the fact that pets are important ... for every member of the family" (Levinson, 1997, p.122).

The consideration of animals as family members has also been evidenced in dangerous environments, such as during natural disasters or family violence. As documented by Lockwood (1997), and more recently witnessed through Hurricane Katrina, many humans risk their lives during disasters (some die) by refusing to evacuate unless they can be assured of their animals' safety. In a different yet similar vein, battered women have delayed leaving domestic violence situations due to concern for their companion animals (e.g., Flynn, 2000). Allen, Gallagher, and Jones (2006), in their study of such women, found that "Fear for my pets caused me to stay for years," and "I delayed leaving for months, until I found a safe home for my dog" (p. 174). Allen et al. also found that the women's consideration of their children's attachment to their pets influenced their staying or returning: one woman stated that "The children wouldn't leave, one child would always

insist on staying behind. I felt pressure to stay to keep my son happy” (p. 174). Thus, the presence of, and attachment to, companion animals can influence staying or not staying in dangerous situations, potentially putting children’s safety at risk.

As a protective factor, companion animals can help mediate factors in families, such as stress, that contribute to the occurrence of child maltreatment. Allen, Blascovich, and Mendes (2002) found that the presence of companion animals often lowered reactivity to stressful situations and that the animals clearly acted as social supports. Albert and Anderson (1997) found that women felt their companion animals raised family morale. In a study of 896 military families, Catanzaro (1984) found companion animals to be of protective value during the temporary absence of a spouse or child, the developmental transitions of childhood and adolescence, lonely or depressed times, crises such as the illness, or relocation and unemployment. Companion animals can act as stabilizers in these situations because they offer love, affection, and unconditional acceptance.

Having companion animals can help children learn about certain family life experiences such as responsibility (e.g., animal husbandry), care giving (nurturing and caring for an animal), and loss and death (the death or disappearance of the animal). The presence of companion animals can also help protect the well-being of children and their families by assisting them in navigating loss and the subsequent mourning process with less pain (Kaufman & Kaufman, 2006; Sable, 1995). Learning how to care for companion animals can be used in interventions as models for parents learning about the needs and responsibilities of caring for their children, and for children learning how to nurture and care for others, despite their own poor parental models.

Companion animals often may function “as sentinels of unsafe environmental conditions” (Jalongo, Stanek, & Fennimore, 2004, p. 54). As family members, companion animals may mirror family tensions and critical situations (Levinson, 1997) and serve as cues in assessment to explore family issues. For example, Cain (1983) found in her study of companion animal relationships in 60 families that 81% felt

their companion animals were sensitive to the moods of other family members and some related that when their family was stressed or in conflict that their companion animal manifested physical symptoms, such as loss of appetite and diarrhea.

I run a program for children who abuse animals [Children and Animals Together (CAT)]. During a recent assessment visit at the home of a six year girl in the program, it was observed that when the child began to scream at the top of her lungs, the household cats and dogs who had been in the room immediately all ran and hid. Observing animal behavior and inquiring about animal health in family homes may help uncover information that suggests the need to probe deeper into family dynamics.

Recognizing the role of animals as family members means understanding that they are one of the sub-systems within the complex family system, and as such, both influence, and are influenced by, every other family system (Melson, 2001). Being a meaningful part of the family system means that including questions and observations about the past and current presence of animals in child welfare households, the meaning those animals have for each family member, their care, and whether any of them have been hurt or killed is important to effective family-centered practice.

Taking this more ecological approach to questioning can help caseworkers make a more accurate and useful assessment of child safety and well-being in the following ways: (1) identifying whether a child has been traumatized by witnessing the abuse of family pets; (2) detecting and supporting findings of child abuse and neglect as well as identifying other violence (Gullone, 2011); (3) establishing whether there are companion animals who are key supports in a child's eco-system (Erzinger, 2004) which may help if the child remains at home or be lost if the child or animal is removed; (4) suggesting the introduction of specific types of animal-assisted interventions (AAI); and (5) identifying whether the child has committed acts of cruelty to animals.

Child welfare workers also need to assess for loss and trauma when children lose their companion animals, whether through animal abuse or other causes, such as being moved to foster care or adoption, moving to residences where companion animals are not allowed, such as public housing or some

apartments, death of a pet, or disappearance of an animal. Not doing so fails to recognize possible additional significant losses experienced by children who already have lost much (Ross & Baron-Sorenson, 2007).

Animal Abuse

For animals, being a member of the family may mean benefits for both humans and animals, but it can also mean animals become victims of dysfunctional family dynamics. So while family AHR can result in such behaviors as family members sleeping with companion animals, sharing tidbits from meals and snacks with them, playing with them and celebrating their animals' birthdays, they can also result in interactions where the animals are kicked, punched, burned, stomped, starved, hung, drowned, tortured and killed. The indicators of physical, emotional and neglectful child maltreatment are actually very similar to those for animals being abused, including: conflicting or inadequate explanations for injuries; self destructive, withdrawn, or aggressive behavior; consistent and/or extreme fear, cowering and anxiety especially in presence of caretaker; running away; avoidance of physical contact; toilet accidents; depression; failure to thrive; apathy; being dirty, too cold, too hot, thirsty and/or hungry as well as having untreated medical issues (Loar, 1999).

In addition to the harm done to the animal, animal abuse can be a form of physical, sexual or emotional abuse to the child. For example, animal abuse can be used as a form of physical abuse where the "pet is disciplined or punished for a child's behavior as well as the reverse—the child being punished via physical abuse for perceived misbehavior of the pet" (Schaefer, 2007, p. 41). Sexual acts with animals are a form of child sexual abuse if a child is forced to participate in or watch such acts. Deliberately putting a child's companion animal in danger to create a climate of terror can be defined as emotional/psychological abuse (Faver & Strand, 2007; Schaefer, 2007).

Besides being a form of abuse itself, experiencing or witnessing animal abuse may suggest the possibility of other problems within a family (Gullone, 2011). The co-occurrence of animal abuse and domestic violence is well established. Quinlisk (1999), in two studies of domestic violence clients, found that of those reporting having companion animals,

79% and 72% said there was animal abuse including kicking, hitting, punching, mutilation, and killing. In a study of 100 battered lesbian women, 38% reported their partners had abused their companion animals (Renzetti, 1992) while over two-thirds of 100 battered women seeking safety in domestic violence shelters reported their companion animals being threatened or killed by their partners (Ascione, 2005). Walton-Moss, Manganello, Frye, and Campbell (2005), in a study of 427 abused women across 11 geographically dispersed U.S. cities, reported threatened or actual abuse of a companion animal to be one of five most statistically significant indicators of men to become batterers.

Adams (1995) described companion animal abuse as one unique form of battering. Women, whose companion animals are threatened, harmed, or killed experience fear for themselves and their animals. They may decide they have to give up their companion animals to a shelter (where it may be euthanized) or others to avoid harm. These women can experience tremendous grief over the loss of their companion animal and the relationship with that animal; when they have children, the children also experience this loss. Ascione, Weber, and Wood (1997) interviewed 39 children of battered mothers. Two-thirds (66.7%) had witnessed companion animals being hurt by, among other things, strangulation, poisoning, and being shot. More than half (51.4%) said they had protected a companion animal from a perpetrator. "In front of the children he would talk about giving the dog away, or worse still, about killing him. This made the children very frightened as they loved the dog" (Allen et al., 2006, p. 172). See Faver and Strand (2007) for an excellent review of the current research on the psychological costs of animal abuse for battered women and their children.

Interestingly, while it unknown if any state defines witnessing animal abuse as child abuse, it is noteworthy that at least six states (AZ, CO, IN, NE, NV and TN) have statutory definitions of domestic violence that include abusing or threatening to harm animals in order to control an intimate partner's behavior, and one state (CO) has similar definitions for elder abuse (Arkow, 2013a). More work needs to be done in child welfare.

The abuse of animals by children who have been abused themselves or who have witnessed abuse of others is another

connection increasingly supported by research. Merz-Perez and Heide (2004) suggested that animal abuse by children can be an indicator that those children are at risk themselves of having violence committed against them. Ascione (2005) reported that children who have been physically or sexually abused are more likely than nonabused children to abuse animals. DeViney, Dickert & Lockwood (1983), in a study of 53 families who had maltreated children, found that animal abuse/neglect had occurred in 60% of the families and in 88% of the 19 families where children were physically abused; in 26% of those families, children had abused their companion animals. Friedrich compared 271 cases of substantiated sexual abuse in 2- to 12-year-olds to 879 nonabused children and found that parents reported one in three sexually abused boys and one in four abused girls were cruel to animals. In comparison to nonabused children, the rates were seven times higher for abused boys and eight times higher for abused girls (as reported in Ascione, 2005).

Quinlisk (1999) found in one study that 76% of the battered women who reported abuse towards their companion animals reported their children witnessing the abuse and 54% reported their children also committing animal abuse. Ascione et al. (1997) found in their study of companion animal abuse experiences of abused and nonabused women that over 13% of the children who had witnessed abuse of animals reported that they themselves had hurt a companion animal by doing such things as throwing, hitting or stepping on the animal (see also Faver & Cavazos, 2007; Flynn, 2000; Melson, 2001). Thus, the discovery of animal abuse in a home can signal the need for further safety and/or risk assessment.

Moreover, animal abuse perpetrated by children is itself a very serious behavior that needs intervention (Merz-Perez & Heide, 2004). It is one of the early manifestations of conduct problems associated with “low empathy and callous disregard” (Dadds, Whiting & Hawes, 2006, p. 141) and can be one of the earliest, as well as most severe, signs of conduct disorder (American Psychiatric Association, 2000). While every child who abuses an animal may not be seriously disturbed or go on to commit other crimes, substantial research suggests that a pattern of childhood animal abuse may be one of a cluster of expressions of childhood aggressive or antisocial

behavior (Gullone, 2011). Abused children, in particular, may be vulnerable to such 'generalized deviance.' For example, in CAT (treatment program for children who abuse animals) the vast majority of children assessed have experienced ongoing maltreatment. It is also very common for them to have been aggressive towards siblings, classmates, caregivers, teachers and property.

Positive Impact of Animals on Humans

Animals, either as companions or as part of formal AAI, can be therapeutic for children, especially those who have experienced trauma (Parish-Plass, 2008). The literature, both professional and popular, is replete with evidence of a variety of positive effects that animals can have on humans—more than can be adequately reviewed here. Examples include both long and short-term health and wellness effects, as well as psychosocial benefits. Research has, for instance, demonstrated that companion animals may help lower heart rate and reduce blood pressure for both children (Friedman, Katcher, Thomas, Lynch, & Messent, 1983) and adults (Allen et al., 2002; Katcher, Friedmann, Beck, & Lynch, 1983), and decrease depression (Garrity, Stallones, Marx, & Johnson, 1989; Siegle, Angulo, Detels, Wesch, & Mullen, 1999). Animals draw and hold children's attention, directing their attention outward and thus helping calm them (Hart, 2000; Katcher & Wilkins, 1997) and mediate their emotional crises (Strand, 2004).

Risley-Curtiss et al. (2006a) reported the women in their study identified receiving friendship, fun, love, comfort, constancy, and/or protection for themselves, their children, or both, from their AHR. These women talked about their own childhood experiences with companion animals, relating that their animals provided them with support, friendship, protection, fun, play and love. For example, Felicia described a childhood dog as "always at our side; [he] went everywhere with us. He was real protective over us" (Risley-Curtiss et al., 2006a, p. 438). It is important to note that these cherished relationships were not always with long-term family pets. In the same study Marie shared her experience with a stray cat when she was 5 years old "It was kind of like my only friend that I could talk to ... I didn't have good communication in the family ... so

it was kind of like my friend—my cat, my buddy that I talked to and stuff” (Risley-Curtiss et al., 2006a, p. 438). The cat disappeared after about a year.

Children often report confiding their secrets, fears and angers to their companion animals (Melson, 2003), and abused children may be more likely to do so than nonabused children. Robin, ten Bensel, Quigley, and Anderson (1984) found abused children were three times more likely than nonabused children to identify their companion animals as support for overcoming loneliness and boredom. For 47% of the abused children, companion animals also provided someone to love and be loved by, compared to 29% of nonabused children. As stated by a child in the study, “A pet is important as it gives the child something to hold and love when his parents or one parent doesn’t love him” (Robin et al., 1984, p. 114). Fortunately for such children, holding and confiding in animals does not have to be developmentally outgrown as they age, thus they could be one of the few constants in their fractured lives. This is in contrast to the developmental pattern of children gradually individuating from their parents and siblings (Melson, 2001). Since it is also socially acceptable for boys to show emotions and nurturing behaviors with animals, this gives them a potential confidante and ally in unhealthy families.

In their review of AHR research, Garrity and Stallones (1998) concluded that benefits from companion animal association occur on the psychological, physical, social and behavioral levels, and are probably both a direct benefit to humans as well as a protective or buffering factor when humans face life crises. Strand’s (2004) review of the research also supported the buffering impact of the child-animal bond in families with interparental conflict, and she recommended inclusion of that bond to enhance children’s coping in such families. Melson (2001) wrote, “the ties that children forge with their pets are often among the most significant bonds of childhood, as deeply affecting as those with parents, siblings, and friends” (p. 16). In sum, the research shows that positive interactions with, and attachments to, animals can be good for both children and parents. Having animals in one’s home may help mediate factors that may contribute to child maltreatment, and they may also be able to help buffer against the effects of maltreatment.

Because of the powerful connections that humans can have with animals, animals can also be positive adjuncts in treatment of maltreated children and their caretakers (Fine, 2010; Levinson, 1997). While not all children and parents experience these connections, the potential for this positive impact has been recognized as far back as the middle 18th century, with the planned introduction of companion animals into the care of the mentally ill at "The York Retreat" in England (Levinson, 1997). In 1969, Levinson published his seminal book *Pet-oriented Child Psychotherapy*, in which he documented ways that the inclusion of companion animals can accelerate the development of rapport between practitioners and clients (Levinson, 1997). This can be useful in enhancing client motivation, which then may help provide more effective treatment in the shortened time frames demanded by today's managed care. Levinson also described how the inclusion of animals could be helpful in psychological assessment, in psychotherapy, in pet-oriented therapy in residential settings, in working to motivate the exceptional child for learning, and in family therapy (Levinson, 1997). Reichert (1998) supported Levinson in her work with children who have been sexually abused, stating that "a child often finds it's easier to express herself through physical interaction with the animal rather than verbal communication" (p. 180).

In 1984, Anderson, Hart, and Hart published *The Pet Connection: Its Influence on Our Health and Quality of Life*, which included reports of the positive impact of animals on children, including those who are emotionally disturbed and have language disorders or autism. Cusack (1988) summarized research on the positive connection between mental health and companion animals related to depression, stress and anxiety, and psychiatric patients among children, adolescents, family, those suffering physical challenges, and those in prison (all populations relevant to child welfare work).

The evidence supports inclusion of AHR in the treatment of many children, and perhaps parents, in abusive families. The form this treatment takes can vary in multiple ways, including: (1) child welfare practitioners placing troubled children and youth in residential centers that include AAI such as Green Chimneys, in Brewster, N.Y.; (2) requesting AAI

programs be included in crisis or transitional settings for maltreated children who are going into foster care; (3) encouraging foster caretakers to get companion animals so that foster children may have the possibility of immediate nonthreatening allies; (4) advocating for children going into foster care to be able to take a treasured companion animal with them (Ross & Baron-Sorenson, 2007); and (5) referring children and parents to therapists who use AAI programs designed specifically for treatment of abusive families (e.g., equine psychotherapeutic programs) (Fine, 2010; Parish-Plass, 2008).

Treatment can also include educational, concrete and referral services, such as helping a family keep a child's beloved companion animal by linking them to low cost veterinary services and food banks providing animal food. Through budgeting and casework, case managers can even assist individuals and families who may benefit from having a companion animal in deciding what kind of companion animal would be appropriate, what their care entails, and if they can afford such an animal. Anecdotal evidence suggests that many children aging out of the substitute care system who often live alone are getting companion animals. Unfortunately, they are usually unprepared for this responsibility and the animals may end up being abandoned. For example, one young woman who got herself a ferret did not realize that ferrets can smell quite bad. She told her caseworker she didn't want the ferret any longer and was going to turn it loose in a park where it would have died. She erroneously believed that domestic ferrets come from the wild. Child welfare practitioners can help keep such situations from happening. Caseworkers can also validate the importance of animal family members to their client families, especially children, and maximize their work with those families by drawing on the positive impact such animals can have for family members.

Child welfare practitioners do not need to be able to do AAI. However, they should understand the potential benefits and pitfalls, the differences between animal-assisted activities and therapy, and consider referrals to quality programs that do include animals (e.g., hippo therapy, equine-assisted psychotherapy, and humane education).

Integration of AHR into Child Welfare

It is not the purpose of this article to outline a complete detailed protocol directing integration of AHR into child welfare agencies; that is the role of individual agencies themselves. It is our purpose, however, to facilitate that integration by revisiting and reinforcing the need for it, providing information and resources, and making practical recommendations.

There is more than enough documentation of connections between humans and animals to consider expanding the ecological lens to include animals in child welfare work as an important way to enhance practice. Efforts to encourage agencies to do so have been under way for several years (Arkow, 2007; Loar, 1999; Randour & Davidson, 2008). Nonetheless, the most current research suggests this inclusion has been slow and piecemeal. In a study by Risley-Curtiss, Zilney, & Hornung (2010), 46 state child welfare agencies responded to a survey on inclusion of animal-human related material in their CPS trainings, assessments, and interventions. Most states included no material on AHR, and for others it was variable. For example, twelve states provided training on asking about the presence of animals in families and eight included information on recognizing and assessing animal abuse. Seventeen states included information on the co-occurrence of animal and child abuse and domestic violence in their training, but only three states included information on AAI. The same study also found only 10 states reported cross reporting between child animal welfare agencies, only 3 states had any formal policies regarding such cross reporting, and only 6 states included the issue of cross reporting in training.

So what is holding child welfare agencies back from including animals in their work? Respondents in the Risley-Curtiss et al. study reported barriers which included lack of knowledge, lack of staff and time, and a lack of administration-initiated direction. Other barriers may include speciesism, computerized case management, and issues of confidentiality.

Speciesism

One barrier to expanding the ecological lens in child welfare is the issue of speciesism (Wolf, 2000) or humancentric bias in human service fields (Ascione, 2005; Melson, 2001;

Risley-Curtiss 2010a, 2010b). This usually manifests in the form of dismissing animals and the importance they have in the lives of humans, despite a significant body of research to the contrary. While the journal *Social Work* published a review in 1987 of the growing area of human–animal bonding and its implications for social work practice (Netting, Wilson, & New, 1987), a study of cross-reporting between child welfare workers and humane society workers in Canada found that a number of child welfare workers thought cross-reporting was unimportant and were resistant to including animal welfare in their assessments (Zilney & Zilney, 2005). Moreover, a public child welfare expert recently told the author that a discussion of the inclusion of animals in public child welfare was “unconventional.”

Interestingly, several states or U.S. territories (e.g., Arkansas, Oregon, New York, Puerto Rico) have included penalties in their animal cruelty laws for those who abuse animals in front of children (Animal Defense Fund, n.d.; Arkow, 2013b). For example, in 2011 Oregon’s revised ORS 167.320 animal abuse law included animal abuse in the first degree as a Class C felony if “the person knowingly commits animal abuse in the immediate presence of a minor child” (OregonLaws.org, 2011). They increased the penalty July 15, 2013 for that crime (Arkow, 2013b), yet no state statutes could be found that include animal abuse in their definitions of child abuse. It appears that child welfare is lagging behind those in animal welfare.

Administration

Unfortunately, if this specieiism is found in child welfare administration, then it is unlikely that animals will be integrated into child welfare work in any comprehensive manner. This bias usually takes the form of rejecting animals and the large amount of interdisciplinary research that has demonstrated their importance to humans. Alternately, it may take the form of simply refusing to become informed (i.e., lack of knowledge). Comprehensive integration of AHR into child welfare work begins with administrators understanding that it does not matter what they think of animals—whether they have them, like them, or not. It is the place that animals may have in the ecologies of the families (e.g., the interconnectedness of animals and humans) they serve and therefore how

that may impact the 'life of the case' that is important. The previous discussion of animals as family, animal abuse, and AAI begins that undertaking. Once this understanding is achieved, it would seem reasonable to incorporate observations and questions about the presence of animals in/at homes and the meaning those animals have for the family members into investigations and any other assessments.

Computerized Case Management

The computerized case management assessment systems now in use also present additional barriers. For example, many safety and risk assessments are copyrighted and change in these standardized instruments comes extremely slowly, therefore lagging behind in the incorporation of new knowledge. Nonetheless, questions could be added independently to the recording system, perhaps beginning with paper and pencil and then adding computer case records as case notes.

Confidentiality

Once questions and observations of AHR are added to assessments and case records, the information obtained needs to be communicated to relevant parties including ongoing case managers, therapists, substitute caregivers, prospective adoptive parents and, potentially, animal welfare investigators. This reveals another potential barrier, namely the issue of protecting client confidentiality. This barrier can be overcome, however, where the willingness to do so is present. Of all fifty states, 11 already have cross reporting laws that allow sharing of information about animal abuse by CPS workers, and six require that CPS workers report animal abuse (Animal Law Coalition, 2009). In addition, in my CAT program we have the reporting of child or animal abuse and sharing of information with casemanagers and therapists built into our informed consent for intervention.

Lack of Knowledge

While these challenges appear to be daunting, there are resources available to help. American Humane's publication of guidelines in *A Common Bond* (2008) by Randour and Davidson provides specific recommendations for child welfare agencies regarding asking questions about the care and treatment

of animals, treating children who themselves have abused animals or who witnessed animal abuse, including AAI in the treatment of maltreated children, and modifying laws and policy to include the co-occurrence of animal abuse and other forms of family violence.

Training on the co-occurrence of animal abuse and other forms of family violence is available free of charge in many states through what are commonly called ‘Link Coalitions’ (e.g., The Arizona Humane LINK as well as The National Link Coalition). Training is also available for therapists conducting court-ordered assessment and treatment of juvenile animal cruelty offenders through such programs as the Animals and Society Institute’s AniCare Child program (Animals and Society Institute, n.d.). Management can also support attendance at outside training that is available on such topics as children and animals, treatment of animal abuse and AAI, as well as contracting with agencies that provide AAI.

Finally, to further advance practice it is suggested that social work education, including Title IV-E programs, integrate AHR into their BSW, MSW and PhD curriculums. Many child welfare professionals, and much child welfare research, come from the ranks of social work students and professionals. It is incumbent upon social work education to join other professions and disciplines in efforts to delve into, and build on, animal–human relationships as well as integrate such relationships into social work curriculums. Currently, at least three schools of social work (University of Denver, University of Tennessee, and Arizona State University) have substantial programs addressing areas of AHR. Faver and Strand (2003, 2004) provided examples of including animal abuse and domestic violence linkages in social work foundation courses. DeMello’s (2010) recently published *Teaching the Animal: The Social Sciences* contained a chapter with specific suggestions for integrating AHR into standard social work courses as well as examples of syllabi for stand-alone courses (Risley-Curtiss, 2010a).

Lack of Staff and Time

It is well known that most child welfare workers are overworked, and thus some argue they have no time to include more in what they are already doing. Risley-Curtiss et al.

(2010), however, did find in their study of the AHR in public child welfare that some states: (1) include information on AHR in their core CPS training; (2) cross-report animal abuse; and (3) provide AAI to CPS children. Child welfare agencies in a few states in particular have integrated all the areas of AHR discussed here into policies, procedures and practice. Thus, there are models for guidance in how such integration can be done within the current work environment, especially if resources already available are used.

Conclusion

Given the research on the effects of animal abuse, child welfare case practitioners should be asking about the presence, meaning and treatment of companion animals, and to a lesser degree, farm animals and wildlife, as part of child abuse investigations, as well as in on-going case management. Doing so has many benefits for child welfare practice. Identification of animal abuse by adults in a family is important since it can be considered a form of child maltreatment. Furthermore, the frequent co-occurrence of animal abuse with child maltreatment and/or domestic violence makes it a red flag, suggesting the need to explore the existence of other forms of family violence (DeGue & DiLillo, 2009). For example, identifying animal abuse committed by children may help uncover child abuse, since children who are physically or sexually abused may react to their abuse by hurting animals. Identification of recurrent animal abuse by children is also useful for identifying those who may exhibit the potential for developing ongoing problematic trajectories, identifying children as victims, and in signaling the need for prevention treatment efforts for said children. If children have witnessed their animals being hurt or killed, it can also help highlight a need to assist them grieve the harm done to their animals and/or the loss of those companion animals. "Early intervention is the gateway to violence prevention" (Ortega, 2006, p. 932). It is also important to notify substitute caregivers with animals who may care for such children so that they can protect their animals, support the children developing positive ways of interacting with animals, and protect the children from possible animal bites due to

abuse of the animal. For similar reasons, staff of AAI programs should be notified if children who have abused animals are being referred.

Along with asking questions about AHR, observation of animal-human interactions can be extremely helpful in supporting or challenging other information obtained. Home-based services are the core of child welfare service provision, including during investigation. This affords child welfare practitioners an opportunity to repeatedly interact with families and their animals in a non-threatening manner and thus be able to observe animal-human relationships. In DeViney et al.'s (1983) investigation of animal abuse and maltreating families, caseworkers actually observed animal abuse/neglect first hand in 38% of the families. In all of the cases that Zilney and Zilney (2005) examined in-depth, the type of child abuse/neglect mirrored the type of animal abuse/neglect or vice versa. While observations of these interactions are already being done when caseworkers observe home interactions, their meaning is mostly subconscious. We are asking that child welfare workers consciously make these observations and include them in their investigations and assessments, as they may provide a window into underlying dynamics in a family, both protective and harmful (DeGue & Dillo, 2009; Gullone, 2011; Hutton, 1998; Loar, 1999; Rosen, 1998).

A serious consequence of disregarding AHR in child welfare is that it can shortchange our abilities to help clients by failing to: (1) include comprehensive family-centered assessments; (2) recognize serious problem behaviors (e.g., animal abuse, domestic violence); and hence (3) facilitate early intervention; (4) recognize the potential for supporting resiliency through the powerful healing potential of animal-human interactions; and (5) validate important members of many families. These failures can challenge the effectiveness of child welfare practice.

The overarching mission of child welfare work is to protect children and ensure their well-being. Regardless of our views on AHR, we can help maximize our ability to do so by building a more comprehensive appreciation and application of animal-human connections into practice.

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Cross-reporting of Interpersonal Violence and Animal Cruelty: The Charlotte Project

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The overlapping nature of interpersonal violence and animal cruelty is well established, however historically each issue has been addressed by distinct and separate protective systems. An innovative community-based project is described that utilized cross-training as a mechanism to foster collaboration between human services and animal control agencies. Findings are useful for professionals and community stakeholders interested in facilitating the cross-reporting of interpersonal violence and animal cruelty.

Key words: interpersonal violence, animal cruelty, reporting, cross-reporting, system collaboration

Both interpersonal violence and animal cruelty are serious social problems that result in untold costs in terms of human and animal suffering. Although troubling links have emerged between interpersonal violence and animal cruelty, the protective systems designed to respond to these issues have evolved into distinct and specialized systems that often operate with limited consideration of one another. At best, lack of knowledge and coordination between systems restricts the possibilities for creative and effective collaborations and, at worst, increases the risk for harm in situations where both human and animal abuse are occurring simultaneously. This article examines a community-based project designed to foster collaboration between a human service agency and an animal control organization to educate professionals and examine best practices for the cross-reporting of animal cruelty and interpersonal violence.

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Social workers have an important facilitative role in bridging service delivery systems. One of the unique and defining features of social work involves a longstanding commitment to community-level action, intervention, and change. Social workers identify ways to partner with consumers of services, professionals, groups, and organizations to champion rights, opportunities, and the well-being of underserved and at-risk population groups. In addition to direct service with individuals and families, social workers act to improve communities and enhance inter-organizational, group, and institutional relationships. In everyday practice, "the practitioner must document the nature and extent of a problem, describe and measure its impact on people's lives, and help find solutions" (Perlman & Gurin, 1972, p. 13).

As noted by Toseland and Rivas, a component in community practice involves capacity building, defined as "helping community groups [and organizations] develop the ability and resources to successfully tackle one issue or a set of issues" (2008, p. 54). Capacity building is predicated upon social workers playing "the role of coordinator in helping members gather data and build resources ... [and] facilitate exchanges of information among members about the issues facing the group and about ways to accomplish particular objectives" (p. 54). When engaged in community capacity building, the social worker assists consumers of services and professionals with coordination and integration of communication and interaction across organizations and interests groups to build infrastructure and facilitate change (e.g., conduct research, promotion of rights, safety, and protection). Inter-organizational collaboration and capacity building often center on bringing people together on the basis of common interests and values about a problem, situation, or occurrence with recognition that contingent upon "a group's interests and its ideology, the same condition can be considered perfectly satisfactory or a burning injustice" (Perlman & Gurin, 1972, p. 13).

Here, community practice is examined in the context of a workshop designed for employees at a department of human services and an animal care and control agency to examine the merits of and processes for the effective cross-reporting of animal cruelty and interpersonal violence by professionals. The

overriding theme for this demonstration project involved the desire to bring frontline social workers and animal control officers together to examine best practices for protecting animals and humans against violence.

Violence in the Context of the Family

Zilney and Zilney (2005) provide an important historical backdrop for describing the evolution and independent nature of service delivery for and organizational response to interpersonal violence and animal cruelty in North America. In recent years, literature has described and documented an association between interpersonal violence and animal cruelty, yielding support to the premise that animal cruelty often occurs in the context of domestic violence (Arkow, 1998, 2007; Ascione, 1998, 2005; Becker & French, 2004; DeGue & DiLillo, 2009; Flynn, 2000; Jorgenson & Maloney, 1999; Merz-Perez & Heide, 2004; Quinlisk, 1999; Randour & Davidson, 2008; Trollinger, 2001). Yet, in communities across America, many protective service agencies and animal care organizations continue to function in a segregated fashion, conceptualizing identification of and intervention with animal cruelty and interpersonal violence as separate, unrelated occurrences that affect specific populations (e.g., children, women, and animals). For example, Risley-Curtiss, Zilney, & Hornung indicate that only "Slightly more than a quarter of the states (12 of 46) provide training for CPS [child protective service] staff to inquire about whether families have animals ... a little more than 17% (8 of 46) include information about recognizing and assessing animal abuse" (2010, p. 75). Unfortunately, silo approaches often fail to recognize animal abuse as a component "of the continuum of abuse in a family" and can undermine inter-organizational information sharing and coordination of services (Becker & French, 2004, p. 401).

"The Latham Foundation, the AHA [American Humane Association], and the Humane Society (HS) of the United States are three organizations that have long promoted interdisciplinary collaboration between animal welfare, child welfare, and DV [domestic violence] professionals," according to Risley-Curtiss, Zilney, and Hornung (2010, p. 71). In recent years, the Humane Society of the United States (HSUS) has

taken an instrumental role in promoting "a view of family and interpersonal violence that transcends categories (e.g. animal cruelty, partner abuse, child abuse) broadening interpersonal to include other species as well as family to include non-humans [animals]" (Long, Long, & Kulkarni, 2007, p. 150). Beyond community-based educational efforts to raise public and professional awareness, the HSUS has also advocated for cross-sector reporting, where professionals "report and establish appropriate recording mechanisms between service delivery systems to protect children, adults, and animals from violent acts" (Long et al., 2007, p. 152). When communities establish the capacity to cross-sector report animal cruelty and interpersonal violence, vulnerable populations and professionals stand to benefit from a

richer understanding of the conditions and dynamics surrounding and underlying family violence and patterns of interpersonal violence. ... Access to current, pertinent, and valid data on which to act is essential for effective prevention and intervention services. With respect to violent acts, timely knowledge of actions and behaviors can help shape intervention strategies and influence professional decision making concerning the safety and security of consumers, as well as providers of services. (Long et al., 2007, p. 153)

Review of Literature

In recent years, given a growing body of research describing a link between animal cruelty and interpersonal violence, advocacy for cross-reporting initiatives between social service and animal protection organizations as well as cross-reporting legislation have become prevalent and have emerged from a variety of sources (e.g., DeGue & DiLillo, 2009; Long et al., 2007; Silk, 2007; Taylor & Signal, 2006). For example, Randour (2007) suggests a need for professional standards in the helping professions to facilitate the education and training of mental health professionals concerning the link between animal cruelty and interpersonal violence as components for use in assessment and intervention. Silk cautions, "professionals need to be aware and take a balanced approach in order not

to jump to conclusions, but they must take seriously the idea of connections [between animal abuse and domestic violence]" (2007, p. 712). Not surprisingly, Taylor and Signal's analysis of adults in Queensland "showed that those who were not aware of the link and did not know to whom to report such abuse demonstrated the lowest overall propensity to report [animal abuse]" (2006, p. 207). Disappointingly, Risley-Curtiss, Zilney, & Hornung indicate that "Of states, 26% (12 of 46) reported that some cross-reporting occurs, 6.5% (3 of 46) states reported having some sort of policy in place, and 11% (6 of 46) include information on cross-reporting in training" (2010, p. 76). Hence, professional ignorance stands as a critical initial barrier to cross-reporting efforts.

Zilney and Zilney (2005) describe a cross-sector reporting initiative between Family and Children Services of Guelph and Wellington County (FSGWC) and the Guelph Humane Society (GHS) conducted from February of 2001 through January 2002 in Ontario, Canada. They report that via "an internal training program, researchers educated investigators from both agencies about the other agency's mandates and procedures, and issues relating to the link between cruelty to animals and humans" (p. 54). Additionally, "researchers developed an initial intake checklist form to simplify the gathering of information and remind investigators to seek data through direct questioning of their clients relevant to the completion of the form" (p. 53).

Zilney and Zilney (2005) further describe a number of results and observations concerning their research on the cross-reporting activities initiative. They note that collaboration and the partnership between the two agencies appeared to enhance communication among workers, foster informal consultation, and assist in the development of innovative interventions to assist workers in combating bureaucratic restraints at FSGWC and GHS (p. 60). Subsequent to the cross-reporting training and effort, both the FSGWC and GHS "added training regarding the relationship between animal and human cruelty to their internal orientation series, and they required all new staff to participate" and the authors conclude "the project would not have been possible without the commitment of senior management personnel from both agencies"(p. 61).

Indeed, Zilney and Zilney's cross-reporting project served as an impetus for a recent demonstration experience in Charlotte, North Carolina.

The Charlotte Project

In 2007, HSUS conducted a community workshop in Charlotte, North Carolina as a part of its *First Strike® Campaign* to educate law officials, helping professionals, and the general public about the connection between cruelty to animals and violence toward people. The *First Strike® Campaign* workshop garnered interest from Mecklenburg County officials and professors at UNC Charlotte and served as a foundation piece for Charlotte becoming a demonstration community for the cross-reporting of interpersonal violence and animal cruelty.

Planning for The Charlotte Project was obtained from leadership (e.g., director positions) in key community agencies as well as educators (staff and professors) at UNC Charlotte. Concerning the two primary community stakeholders, the Division Director of Charlotte-Mecklenburg Animal Care and Control (CMACC) possessed administrative authority over operations for animal care and control and for 78 employees including 39 animal control and enforcement officers. Similarly, the Deputy Division Director of Youth and Family Services Division at Mecklenburg County Department of Social Services (YFSDMCDSS) held administrative responsibilities for mandated protective services for children and families and 140 social workers in a county organization of nearly 1300 employees. Both agency directors were committed to the professional education of their professional staff as well as the aforementioned project goals.

In September 2008, supported through funding from The Humane Society of the United States (HSUS); professors and staff from The University of North Carolina at Charlotte (UNC Charlotte), the Deputy Division Director of Youth and Family Services Division at Mecklenburg County Department of Social Services, the Division Director of Charlotte-Mecklenburg Animal Care and Control, and the Director of the Women's Commission Division for Mecklenburg County Community Support Services initiated The Charlotte Project and began formal meetings with goals to:

- 1) Educate child protective and animal care professionals about the relevance of reporting animal cruelty and interpersonal violence to appropriate authorities and the connection between animal cruelty and interpersonal violence.
- 2) Examine best practices in reporting interpersonal violence and animal cruelty in everyday practice.
- 3) Foster collaboration and organizational relationships between community-based organizations (e.g., UNC Charlotte Department of Social Work, Animal Control Division—Charlotte Mecklenburg Police Department, Child Protective Services of Mecklenburg County Department of Social Services, and Mecklenburg County Community Support Services) to further protect family members and animals in abusive households.
- 4) Identify new and creative ways to enhance effective cross-reporting of interpersonal violence and animal cruelty.

Early in the life of The Charlotte Project, and as a result of funding from HSUS, project members were able to utilize the expertise of Mary Zilney, MSW, and benefit from Zilney and Zilney's (2005) cross-reporting effort in Ontario, Canada. Mary Zilney's expertise was used to create a unique one-day workshop at UNC Charlotte to examine and advance cross-reporting between animal cruelty and care officers from CMACC and social workers from YFSDMCDSS. After considerable discussion between project members and Mary Zilney, common and breakout sessions were designed. A full-day workshop was offered on both March 12th (2009) and March 13th (2009) to accommodate work schedules and to avoid depletion of professionals from important, core organizational activities and responsibilities on any single day. The workshop was video recorded by the instructional technologist in the College of Health and Human Services at UNC Charlotte to produce an edited DVD of the cross-reporting workshop for use as a demonstration project for consideration in other communities.

The workshop structure was designed to review core

content, provide an organizational overview of both systems, introduce new cross-reporting protocols for each organization, and spend time brainstorming implementation and next step issues. Ultimately, the workshop and The Charlotte Project concluded with leadership and agency representatives agreeing to the following: promote the use of published (toll-free) phone numbers to cross-report; examine how assessment items could be incorporated into investigative processes; explore further the feasibility of entering data in a common software package that would route information to appropriate supervisors; and use the DVD of the workshop to bolster on-going training for professionals on the importance of the cross-reporting animal cruelty and interpersonal violence.

Methods

As this these interventions are not well-studied, researchers were interested in feedback from the workshop to evaluate the thoughts and perceptions of participants. Such information can strengthen future development and replication of similar programs. A cross-sectional survey design was used to obtain quantitative and qualitative data from participants at the conclusion of each full-day workshop. The study was approved by the University Institutional Review Board before data collection.

Measures

Scaled survey items were created to assess understanding, perceived skills, and motivation to change of workshop participants. Using a five point scale (low = 1, medium = 3, and high = 5), participants rated their "understanding of the connections between animal cruelty and interpersonal violence" before this training. A subsequent item, using the same content and scaling, prompted a rating for this understanding substituting "after this training" in place of "before this training." Similarly, participants rated their knowledge concerning both animal and human protection systems, ability to identify situations that require referral to another protection system, personal commitment to address animal/interpersonal violence issues within your own delivery system, and belief in the ability to effectively report interpersonal violence and animal

cruelty across protection systems.

In addition, open-ended items were utilized to capture information about perceived benefits and challenges regarding cross-reporting efforts and preferences about the project's next steps. Hence, participants were asked to provide feedback with regard to: "What are the potential benefits of this cross-reporting effort?" "What are the potential challenges to this effort" and "What would you like to see as next steps?"

Findings

Sample Description

Of the 123 attendees in the March (2009) workshops, 77% (n = 95) identified themselves as department of social services employees and 23% (n = 28) were animal cruelty unit employees. With regard to gender and ethnicity, 72% (n = 89) were female and 64% (n = 79) identified themselves as African American, Asian American, or Hispanic, with the majority of participants identifying themselves as African American (55%, n = 68). The mean age of the sample was 36, with only 21% (n = 26) holding a supervisory position.

Quantitative Results

Table 1 describes sample sizes, means, and standard deviations for each of the quantitative items for all participants and by employer, department of social services or animal cruelty and care. For most items, little variation can be found when comparing total sample means with means derived from the two subsamples. Pre-workshop ratings of knowledge were moderate, ranging between 2.60 and 3.39. Child protective and animal care workers gave similar ratings in regard to their pre-workshop knowledge with the exception of 'understanding the connections between animal care and interpersonal violence.' Interestingly, animal care workers (3.39) rated themselves as having more knowledge on this item than child protective workers (2.68). Pre-workshop ratings for motivation and perceived efficacy were 2.93 and 2.88 respectively. Again, animal care workers expressed a slightly higher degree of perceived efficacy (3.18 as compared to 2.80) with regard to reporting across systems. Both groups reported fairly high levels

Table 1. Descriptive Statistics

Item	Population	N	Mean	S. D.
Understands connections between animal cruelty and interpersonal violence	All	123	2.85	1.15
rate yourself <i>before workshop</i> .	DSS Workers	95	2.68	1.07
	Animal Care	28	3.39	1.26
rate yourself <i>after workshop</i> .	All	123	4.28	.68
	DSS Workers	95	4.28	.68
	Animal Care	28	4.29	.71
Knowledge of both animal and human protection systems	All	121	2.89	1.11
rate yourself <i>before workshop</i> .	DSS Workers	95	2.89	1.13
	Animal Care	26	2.88	1.03
rate yourself <i>after workshop</i> .	All	121	4.24	.72
	DSS Workers	95	4.29	.62
	Animal Care	26	4.04	1.00
Ability to identify situations that require referral to another protective system	All	122	2.60	1.17
rate yourself <i>before workshop</i> .	DSS Workers	94	2.56	1.19
	Animal Care	28	2.71	1.12
rate yourself <i>after workshop</i> .	All	122	4.16	.70
	DSS Workers	94	4.15	.72
	Animal Care	28	4.21	.63
Personal commitment to address animal/interpersonal violence issues within your delivery system	All	122	2.93	1.24
rate yourself <i>before workshop</i> .	DSS Workers	94	2.84	1.26
	Animal Care	28	3.25	1.14
rate yourself <i>after workshop</i> .	All	122	4.18	.85
	DSS Workers	94	4.14	.89
	Animal Care	28	4.32	.72
Your belief in the ability to effectively report interpersonal violence and animal cruelty across protection systems	All	121	2.88	1.23
rate yourself <i>before workshop</i> .	DSS Workers	93	2.80	1.26
	Animal Care	28	3.18	1.09
rate yourself <i>after workshop</i> .	All	122	4.12	.88
	DSS Workers	94	4.12	.87
	Animal Care	28	4.14	.93

of knowledge, motivation, and perceived efficacy following the workshop. Knowledge ratings ranged from 4.28 to 4.12, while motivation was rated at 4.18 and perceived efficacy at 4.12.

It should also be noted that given the interest in gender and racial or ethnic attitudinal differences concerning animals (e.g., Risley-Curtiss, Holley, & Wolf, 2006), a preliminary examination of the overall sample did not provide statistically significant differences ($p \leq .05$, 2-sided chi square tests) for pre-workshop ratings for the five quantitative items on the basis of gender or ethnicity. Similarly, when examining department of social service workers and animal control and care officers as distinct subgroups, differences on pre-workshop ratings on the five quantitative items were also generally insignificant. The two exceptions involved: (1) gender with animal control and care officers, where male respondents indicated a lower pre-workshop understanding (2-sided chi square test, $p = .03$) of the connections between animal cruelty and interpersonal violence than their female counterpart officers; and (2) ethnicity with animal control and care officers, where African American, European American, Asian American, Hispanic, and Native American respondents differed (2-sided chi square test, $p = .036$) in their pre-workshop ability to identify situations that require referral to another protective system. Unfortunately, with a relatively small overall sample size, sorting data quickly reduced subsample sizes and limited the meaningful application of additional statistical analyses.

Table 2 summarizes results from nonparametric Wilcoxon Signed Ranks Tests for paired items examining respondents' post-workshop perceptions of their knowledge and beliefs before and after the workshop experience. With respect to all quantitative items, differences of mean ranks on two tailed tests were significant ($p < .01$) and in the direction suggesting that workshop participants benefited in each of the areas: understanding of the connections between animal cruelty and interpersonal violence; knowledge concerning both animal and human protection systems; ability to identify situations that require referral to another protection system; personal commitment to address animal/interpersonal violence issues within your own delivery system; and belief in the ability to effectively report interpersonal violence and animal cruelty

Table 2. Wilcoxon Signed Ranks Test*

Variable	N	Mean Rank	Sum of Ranks	Z	Significance
Understands connections between animal cruelty and interpersonal violence.					
<i>after-before</i>				-8.453	.00
Neg. Ranks	0	0	0		
Pos. Ranks	92	46.50	4278		
Ties	31				
Total	123				
Knowledge of both animal and human protection systems.					
<i>after-before</i>				-8.291	.00
Neg. Ranks	0	0	0		
Pos. Ranks	88	44.50	3916		
Ties	33				
Total	121				
Ability to identify situations that require referral to another protective system.					
<i>after-before</i>				-8.673	.00
Neg. Ranks	0	0	0		
Pos. Ranks	97	49.00	4753		
Ties	25				
Total	122				
Personal commitment to address animal/interpersonal violence issues within your delivery system.					
<i>after-before</i>				-7.939	.00
Neg. Ranks	0	0	0		
Pos. Ranks	81	41.00	3321		
Ties	41				
Total	122				
Your belief in the ability to effectively report interpersonal violence and animal cruelty across protection systems.					
<i>after-before</i>				-7.715	.00
Neg. Ranks	1	47	47		
Pos. Ranks	80	40.93	3274		
Ties	40				
Total	121				

* When data were sorted by employment, Department of Social Services and Animal Care and Cruelty Unit, after and before differences on Wilcoxon Signed Ranks Tests on items remain significant for both subpopulations.

across protection systems. Z scores for the ability to identify situations that require referral to another protection system, understanding of the connections between animal cruelty and interpersonal violence, and knowledge concerning both animal and human protection systems were the highest.

Open Ended Themes

A thematic content analysis was performed on the responses that were provided from 5 open-ended questions at the end of the evaluation survey. Table 3 summarizes themes and provides frequencies. Concerning potential benefits of the cross-reporting event, participants suggested that access to information could help more families and animals ($n = 47$), holding promise for quicker response times and increasing the capability of professionals to better protect both people and animals and reduce maltreatment through early intervention. One animal cruelty and care officer noted, "This effort will help both agencies attempt to help [as] many people/animals that may have not previously been helped." Cross-reporting was also perceived to hold merit for increasing awareness of issues and services ($n = 32$) as well as for understanding how systems can work together ($n = 23$).

With respect to potential challenges associated with the cross-reporting effort, problems of coordination ($n = 37$), often involving poor communication and/or confusion about what to report, and to whom, were cited. Coordination could also relate to lack of trust between two agencies. An increase in bureaucracy (e.g., workload, paperwork and forms) was also cited ($n = 23$). Challenges in working with families (e.g., maintaining confidentiality, encountering client hostility, and lack of client cooperation) was identified as a challenge ($n = 13$) as well as a potential lack of participation, "keeping systems going," and not making reports ($n = 9$).

With regard to the future, participants identified two primary ways to improve cross-reporting efforts via increasing communication and cooperation between agencies ($n = 34$ and additional training ($n = 30$). Identified next steps include: continued coordination of efforts/trainings ($n = 20$); progress monitoring (e.g., problem solving and evaluating efforts) ($n = 8$); and continued implementation ($n = 2$). One participant

Table 3. Thematic Content Analysis for Open Ended Questions

Themes (frequency)	Description/Examples
<i>Potential Benefit Themes</i>	
Helping more families and animals (47)	Better outcomes for animals and children; easier to provide services; serve entire family because 'pets' are part of family.
Increased awareness of issues/services (32)	Understand connections and overlap between types of violence.
Working together (23)	Understand how other systems work and how systems can work together.
<i>Potential Challenges Themes</i>	
Problems in coordination (37)	Information not getting to the correct place; confusion about what to report and to whom, failure to report; poor communication; lack of trust between two agencies.
Increased bureaucracy (23)	Additional work, forms, paperwork.
Challenges working with families (13)	Maintaining confidentiality, encountering client hostility, lack of client cooperation.
Lack of participation (9)	Workers and agencies not making reports.
<i>Improve Efforts</i>	
Increase communication/cooperation between agencies (34)	Fully implement policy, co-locate some staff; share more information
Additional training (30)	Have more meetings, planning, resources.
<i>Next Steps</i>	
Continued coordination efforts/training (20)	More training; follow-through.
Progress monitoring (8)	Problem solving, evaluation efforts.
Continued implementation (2)	Change reporting processes.

advanced "tours, discussions, shadowing of both workers from each agency" as viable options. The formation of small groups for implementation of cross-reporting was a specific suggestion.

Discussion and Conclusion

One goal of The Charlotte Project was to educate both social workers and animal care professionals about the

relevance of reporting animal cruelty and interpersonal violence to appropriate authorities and to educate about the connection between animal cruelty and interpersonal violence. Feedback from participants confirmed that social workers and animal care professionals benefited from the workshop experience in a number of ways (e.g., understanding of the connections between animal cruelty and interpersonal violence, knowledge concerning both animal and human protection systems, ability to identify situations that require referral to another protection system, personal commitment to address animal/interpersonal violence issues within your own delivery system, and belief in the ability to effectively report interpersonal violence and animal cruelty across protection systems).

A second goal of The Charlotte Project involved examining best practices in reporting interpersonal violence and animal cruelty in everyday practice. Although not explicitly evaluated in the post-workshop questionnaire, the workshop design was structured in a manner where animal care and control officers described current and best practices in reporting animal cruelty to social workers. Similarly, a social work supervisor described to animal care and control officers best practices for reporting interpersonal violence to social workers. Concurrent and common sessions afforded participants opportunities to question and discuss various practices, processes, and procedures for reporting.

Concerning the third goal of The Charlotte Project, to foster collaboration and organizational relationships between community-based organizations to facilitate to further protect family members and animals in abusive households, qualitative feedback indicated that participants noted the relevance of collaboration. More specifically, collaboration was viewed as instrumental for facilitating timeliness in reporting animal cruelty and interpersonal violence, as well as the ability to reach individuals and families that otherwise might not have been helped. It is important to note that at the conclusion of the workshop participants agreed to continue to use published phone numbers to report interpersonal violence and animal cruelty across agencies. Qualitative feedback suggested maintaining confidentiality, bureaucracy, paperwork, workload, having enough time, commitment of staff, and "keeping

systems going" as potential barriers for collaboration.

With respect to The Charlotte Project's fourth goal involving new and creative ways to enhance effective cross-reporting of interpersonal violence and animal cruelty, workshop participants were encouraged to consider adoption of a common software for reporting animal cruelty and interpersonal violence between departments of social services and animal care and control. Supervisors could be trained for daily use of the software. Professionals from both organizations could provide a supervisor with pertinent information for entry, documentation, and consideration for investigation. Although novel and creative, this particular phase was not implemented. Indeed, as suggested by qualitative data describing important next steps for cross-reporting, had The Charlotte Project been able to implement additional contact, trainings, and meetings and form on-going work groups (e.g., between YFSDMCDSS and CMACC), technological innovation through the use of common software might have been viable. Unfortunately, from the researchers' perspective with The Charlotte Project, changes in agency personnel, competing time commitments, organizational changes, as well as a lack of a progress monitoring plan can serve to undermine a sustained effort to adopt and use shared software for cross-reporting.

Finally, consistent with Zilney and Zilney's (2005) findings, devotion of leaders in the two primary organizations (YFSDMCDSS and CMACC) was an important factor in the development of The Charlotte Project. At one point, as a result of reorganization efforts at one of the sponsoring organizations, The Charlotte Project was confronted with the possibility of appreciable delay. Leadership's shared interest in the protection of people and animals and dedication to cross-reporting constituted a key ingredient in sustaining efforts and avoiding a setback for implementing the workshop.

Though clearly there are barriers to implementing and maintaining organizational changes that support cross-reporting efforts, the experience of the Charlotte Project shows that educational efforts can help to raise the issue for key constituencies, increase cross-systems knowledge, and promote individual working relationships across systems. Workshop

participants emerged with an increased appreciation and understanding of each others' work, while administrators gained the experience of working together productively to develop and sponsor the workshop. These successful outcomes have prepared a stronger foundation for building on-going collaborations towards creating enduring system changes for cross-reporting efforts in our community.

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Environmental Beliefs and Concern about Animal Welfare: Exploring the Connections

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An online survey examined environmental beliefs and concern about animal welfare among 105 social work students in the U.S.-Mexico border region. Environmental beliefs were measured using items from the revised New Ecological Paradigm (NEP) Scale (Dunlap, Van Liere, Mertig, & Jones, 2000). Higher concern about animal welfare was significantly related to three dimensions of the revised NEP Scale: (1) belief in the fragility of nature's balance, (2) belief in the possibility of an ecological crisis, and (3) rejection of the notion that humans have a right to dominate nature (anti-anthropocentrism). The findings suggest that by making explicit connections between the needs of the natural environment, animals, and people, social work educators may foster a broader ecological worldview that encompasses the well-being of all species and ecosystems.

Key words: animal welfare, environmental beliefs, NEP Scale, social work education

To foster the well-being of individuals in a social context and society as a whole, professional social workers must give explicit attention to the health of the natural environment, including the welfare of all species (Besthorn, 2008). For the most part, however, the social work literature has treated the well-being of the natural environment and the well-being of other species separately. One body of literature focuses primarily on the roles of companion animals in human well-being (e.g., Faver & Cavazos, 2008; Risley-Curtiss, 2010), while the other focuses primarily on protection of the ecosystems that sustain human life (Besthorn, 2004; Rogge, 2008). What is unknown is

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how social workers' beliefs and assumptions about the natural environment are related to their concern for animal welfare. To address this gap, this study used an online survey to investigate environmental beliefs and concern for animal welfare in a sample of social work students residing in the U.S.-Mexico border region.

Given the role of culture in shaping beliefs and attitudes, it is significant that this study was conducted in a Hispanic-serving institution in a geographic region with a predominantly Latino population. To provide the context for this research, it is necessary to review the potential influence of both demographic factors and social work values on students' environmental and animal welfare attitudes.

Environmental and Animal Welfare Attitudes among Latinos

Despite the history of environmental activism among people of Mexican descent (Peña, 2005), there has been relatively little research on Mexican Americans' environmental beliefs. Previous research suggests that Latinos are likely to view humans as connected to the natural environment, rather than separate from it (Lynch, 1993), and to have a more holistic, rather than dualistic, perspective on the relationship between humans and the environment (Corral-Verdugo & Armendáriz, 2000). Moreover, among people of Mexican descent in the United States, a view of land as the source of life has undergirded involvement in a wide range of environmental justice movements (Peña, 2005).

Studies examining the impact of acculturation on Latinos' environmental attitudes have yielded mixed results. One study found that the environmental attitudes of U.S.-born Latino respondents were more similar to those of non-Hispanic White respondents than to those of Latino respondents born outside the United States (Johnson, Bowker, & Cordell, 2004). A survey of Latino college students, however, found that generational status, as measured by the number of grandparents in the U.S., had less effect on respondents' environmental concern than other structural variables such as income and gender (Lopez, Torres, Boyd, Silvy, & Lopez, 2007). In general, research on Latinos, as well as other population groups, has found greater

environmental concern among women (Johnson et al., 2004; Lopez et al., 2007; Olli, Grendstad, & Wollebaek, 2001) and younger people (Johnson et al., 2004; Olli et al., 2001).

The effects of education are not entirely clear. While some research has found greater environmental concern among those with postsecondary education (Olli et al., 2001), other research has found postsecondary education to be correlated with environmental behavior but not environmental beliefs (Johnson et al., 2004).

A survey of the U.S. population conducted by the Pew Research Center in late 2011 provides more insight into the demographic correlates of environmental concern. In response to the question of "how serious a problem is global warming," women and younger people were more likely to believe that global warming is a "very" serious problem (Pew Research Center, 2011). Interestingly, respondents with a high school education or less and respondents who were college graduates were about equally likely to believe that global warming is a serious problem (40% and 39% respectively).

Turning to animal welfare attitudes, research suggests that women (Herzog, 2007) and people with low-income (Signal & Taylor, 2006) are more likely to have a positive orientation to animal welfare issues. Findings on racial and ethnic differences in attitudes toward animals vary somewhat depending on the issue being considered. A study that used an animal treatment scale consisting of one general item on "respect for the quality of life of animals" along with two items regarding the use of animals in agriculture found higher concern for animal welfare among Blacks than among other ethnic and racial groups (Kendall, Lobao, & Sharp, 2006). The same study also found that Blacks were more likely to agree that "people who abuse pets should suffer the same consequences as people who abuse children" (Kendall et al., 2006, p. 413).

Although some research has found differences between African Americans and Whites in attachment to companion animals (Brown, 2002), a study comparing six ethnic groups found no significant differences in the percentage who regarded their companion animals as family members (Risley-Curtiss, Holley, & Wolf, 2006). Moreover, a study focusing specifically on Latinos found that 92% of 132 companion animal owners considered their animals to be family members

(Faver & Cavazos, 2008). Clearly, additional research on ethnic group differences regarding a range of animal welfare issues is needed.

A study of social work practitioners found that while many have some knowledge about the human-animal bond, only a third of those surveyed apply this knowledge in their assessments (Risley-Curtiss, 2010). Moreover, beyond companion animal issues, little is known about social workers' concern about animal welfare.

Environmental Beliefs and the Social Work Perspective

Designed as a measure of environmental beliefs (Dunlap, 2008), the revised New Ecological Paradigm (NEP) Scale assesses "beliefs about nature and humans' role in it" (Dunlap et al., 2000, p. 428). The scale in its original and revised versions has been used to assess environmental beliefs in numerous geographical and cultural contexts (Dunlap, 2008). Of the five dimensions measured by the scale, three closely parallel themes that are implicit in social work's mission and made explicit in the environmental social work literature (e.g., Besthorn, 2008): "anti-anthropocentrism," "the fragility of nature's balance," and "the possibility of an eco-crisis."

Anti-anthropocentrism refers to rejection of anthropocentrism, which is "the belief that nature exists primarily for human use and has no inherent value of its own" (Dunlap et al., 2000, p. 431). Anthropocentrism has often been referred to as "human domination" or "humanity's right to rule over the rest of nature" (Dunlap et al., 2000, p. 427). Because the revised NEP Scale is designed to measure pro-environmental beliefs, high scale scores correspond to the rejection of anthropocentrism (anti-anthropocentrism).

A second dimension, "the fragility of nature's balance," refers to "humanity's ability to upset the balance of nature" (Dunlap et al., 2000, p. 427). A third dimension, "the possibility of an eco-crisis," refers to "the likelihood of potentially catastrophic environmental changes or 'ecocrises' besetting humankind" (Dunlap et al., 2000, p. 432).

These three dimensions of the revised NEP Scale are reflected in policy statements and review articles issued by the National Association of Social Workers (e.g., Besthorn, 2008;

Humphreys & Rogge, 2012; Rogge, 2008) and in the environmental social work literature (e.g., Besthorn, 2004; Besthorn & Canda, 2002; Besthorn & Saleebey, 2003; Kahn & Scher, 2002). These three dimensions are also highly relevant to concern for animal welfare because exploitation of the natural environment affects all species.

Although social work's primary focus is the well-being of people, anti-anthropocentrism is built into the basic assumptions of social work practice. Specifically, through reliance on an ecosystems perspective (Mattaini & Meyer, 2002), the social work profession affirms the interconnectedness of all life (Faver, 2011). Moreover, some social work scholars have called for explicit attention to the natural environment in social work theory and practice (e.g., Besthorn, 2004, 2008; Besthorn & Canda, 2002; Besthorn & Saleebey, 2003; Kahn & Scher, 2002; Rogge, 2008).

Consistent with the science of ecology, the assumption of interconnectedness implies that the well-being of any individual is inextricably bound to the welfare of the whole. As Besthorn (2008, p. 134) explained, "well-being and justice for all humans can only be achieved by working for well-being and justice on behalf of all the beings and sustaining creatures around us (plants and animals), and the encompassing planetary ecosystem" (p. 134). In short, to foster the well-being of people, social workers must care for the planet. Moreover, because of the interconnectedness of all life, humans cannot avoid experiencing the consequences of their actions toward other species and the environment. In other words, what we as humans do to others (other people, other species, and the planet), we do to ourselves (Faver, 2011).

An understanding of "the fragility of nature's balance" follows readily from the assumption of interconnectedness. Consistent with general systems theory, the social work curriculum emphasizes that an intervention in any part of a system reverberates throughout the system (Johnson & Rhodes, 2010). This principle encompasses the natural environment. Without explicit attention to the environmental impact of interventions, social workers may "inadvertently diminish the sustaining natural environment while trying to help people live better" (Besthorn, 2008, p. 134). Interventions that help people "in the short term" may "in ... the long run . . . degrade the world

upon which all depend for survival" (Besthorn, 2008, p. 134).

The reality (not just possibility) of a human-induced ecological crisis is addressed in the social work profession's official statement on environmental policy, which was first issued in 1999 (Humphreys & Rogge, 2012; NASW, 2006). The statement refers explicitly to the existing ecological crisis and articulates social workers' responsibility for environmental awareness and action. Moreover, the nature and extent of the ecological crisis has been elaborated by environmental social work scholars writing across curricular areas (Besthorn, 2004, 2008; Besthorn & Canda, 2002; Kahn & Scher, 2002; Rogge, 2008).

Despite a clear call issued by the environmental social work community, there is little evidence that environmental issues and perspectives are being integrated into social work education and practice in the United States. Significantly, there is no explicit reference to the natural environment in the 2008 Educational Policy and Accreditation Standards which the Council on Social Work Education (CSWE) uses to accredit social work programs (CSWE, 2008). Moreover, none of the Standards of Practice established by the National Association of Social Workers addresses the natural environment (NASW, 2006). On the other hand, the choice of "sustainable development" as a conference theme for the CSWE Annual Program Meeting in 2010 was a hopeful sign.

At the international level, there are more positive developments. During the first decade of the 21st century, the International Consortium for Social Development became the first social work organization to include environmental issues and sustainable development as a category for presentations at its biennial symposium (personal communication from anonymous reviewer, January 2, 2013). Moreover, the natural environment figures prominently in "The Global Agenda" issued by three international social work organizations: the International Federation of Social Workers (IFSW), the International Association of Schools of Social Work (IASSW), and the International Council on Social Welfare (ICSW). One of the top priorities for these three organizations in 2012-2016 is "promoting sustainable communities and environmentally sensitive development" (IFSW, IASSW, & ICSW, 2012). Overall, the "global agenda" of these organizations reflects an

understanding that human welfare is tied not only to social and economic conditions, but also to the natural environment. Equal emphasis on social, economic, and environmental conditions is considered a characteristic of sustainable development (Rogge, 2001).

To summarize, a holistic, pro-environmental perspective regarding humans' relationship with nature is consistent with the social work profession's assumptions of interconnectedness and interdependence. Despite this consistency, the importance of the natural environment has not been sufficiently integrated into social work education and practice, especially in the United States. What is unknown is whether the core assumptions of the social work profession are reflected in students' beliefs about the natural environment and their concern for other species.

Focus of Study

In a sample of social work students attending a Hispanic-serving university in the U.S.-Mexico border region, this study explored: (1) the impact of gender, age, and educational level (graduate or undergraduate student status) on environmental beliefs; (2) the impact of gender, age, and educational level (graduate or undergraduate student status) on concern about animal welfare issues; and (3) the relationship between environmental beliefs and concern about animal welfare issues.

Method

The University and Regional Context

The participants in this study were students enrolled in the undergraduate and graduate social work programs of a Hispanic-serving university located in the U.S.-Mexico border region. Of the students enrolled in the university at the time of the study, 88.7% were Latino, and 80.2% were residents of the county in which the university is located (UTPA, 2011). The poverty rate in the county is 34.4%, compared to a 16.8% poverty rate in the state. The county's population is 90.6% Latino, compared to 37.6% in the state (U.S. Census Bureau, 2012).

Data Collection Procedures

The data were collected through an online survey conducted during the fall semester, 2011. Distribution of the online survey was managed by the university's internet services department using SelectSurvey.NET software (Atomic Design, 2008).

On November 8, 2011, an e-mail message was sent to all social work students enrolled in the university inviting them to participate in an online survey and providing a link to the informed consent message and survey. The informed consent message gave students the options of declining to participate or proceeding to the survey. The informed consent message also stated that if there were any questions the respondents preferred to skip, they could simply leave the answer blank. Two follow-up invitations to participate were sent one week and three weeks after the initial deployment to all eligible students who had not declined the invitation to participate and had not completed the survey. The survey was closed on December 30, 2011.

The "forced anonymous" option of the survey software was used to ensure that the identities of those who responded, those who declined, and those who neither responded nor declined would not be available to the survey administrator or principal investigator. The study procedures were approved by the university's Institutional Review Board.

The survey was distributed to the university e-mail addresses of 303 undergraduate and 102 graduate social work students enrolled in the university in fall, 2011. Responses to some or all of the questions used in this analysis were obtained from 105 respondents, yielding a response rate of 25.9%.

Measures

Respondents were asked to indicate their gender, age, and whether they were a graduate or undergraduate student. The study did not collect data on ethnicity or income level, both of which have been found to be associated with environmental and animal welfare attitudes. A question about ethnicity was not included in order to protect the participants' anonymity. Combined with information on gender, educational status (graduate or undergraduate), and age, data on ethnicity would have made it possible to identify respondents who

occupied statuses that were a numerical minority in the sample. For example, combined information on these four variables would have made it possible to link survey responses to the identity of a respondent who was 56 years old, male, Anglo, and a graduate student (hypothetical example), given the rare occurrence of this set of characteristics in the sample.

In deciding which independent variables to include, the relative predictive utility of the variables was also considered. In the student population from which the sample was drawn, less variation in ethnicity was evident (based on the proportion of Latino surnames in the list of all social work students) than in the other three demographic variables of interest (gender, age, and educational status). Ethnicity was thus less potentially useful as a predictor of environmental beliefs and animal welfare concern. Nevertheless, omission of ethnicity in the questionnaire is an important limitation in the study.

The study did not collect data on income because students' income levels are likely to reflect their temporary status as students rather than their long-term social class status. Thus, students' income levels may not accurately predict their environmental or animal welfare attitudes. Asking students to report the social class status of their family of origin during their childhood would have yielded a measure of subjective social class. There is no precedent for examining the relationship between subjective social class and environmental or animal welfare attitudes. Given the lack of data on ethnicity and income, assumptions cannot be made about the proportion of Latinos in the sample or about the students' current or previous social class status.

In this description of measures, the variable labels are capitalized to correspond to the labels in Tables 1 and 2. The respondents were asked how concerned they were about animal welfare issues (ANIMAL WELFARE CONCERN). This item was adapted from an item used to measure concern about environmental issues in a study by Morrone, Mancl, and Carr (2001). The animal welfare item was constructed to tap level of concern about animal welfare issues in general without leading respondents to think about any particular animal welfare issue. The response alternatives for the item on animal welfare concern were "not concerned at all," "a little concerned," "moderately concerned," or "very concerned." The response

alternatives were coded from one to four, with four representing the highest level of concern.

To measure environmental beliefs, six items from the revised version of the New Ecological Paradigm (NEP) Scale (Dunlap et al., 2000) were included on the survey in this study. It should be noted that various versions of the NEP scale have been used in numerous studies, including cross-national research. In a meta-analysis of 68 studies in 36 countries using different versions of the NEP Scale, Hawcroft and Milfont (2008, cited in Dunlap, 2008) found an average alpha of .71, which reflects relatively high internal consistency. Using the same 68 studies, Milfont, Hawcroft, and Fischer (2008, cited in Dunlap, 2008) found that national-level NEP scores correlated in predictable ways with selected social and psychological variables; these findings lend support to the predictive validity of the NEP Scale items.

The NEP items selected for this study were devised by the scale authors (Dunlap et al., 2000) to measure "anti-anthropocentrism" (EXIST, MODIFY), "the fragility of nature's balance" (INTERFERE, BALANCE), and "the possibility of an eco-crisis" (ABUSING, CRISIS). In each pair, one item was worded in a pro-NEP (or pro-environmental) direction and the other was worded in an anti-NEP (or anti-environmental) direction. Each item had five response alternatives: "strongly disagree," "mildly disagree," "not sure," "mildly agree," and "strongly agree." The responses were coded from one to five, with higher scores representing the pro-environmental (or pro-NEP) stance. Thus, the three items worded in the anti-NEP direction (items 2, 4, and 6 in the list below) were reverse scored with "strongly disagree" coded as five. The pairs of items are listed below:

Dimension: Anti-anthropocentrism

1. Plants and animals have as much right as humans to exist. (EXIST)
2. Humans have the right to modify the natural environment to suit their needs. (MODIFY)

Dimension: Fragility of nature's balance

3. When humans interfere with nature it often produces

disastrous consequences. (INTERFERE)

4. The balance of nature is strong enough to cope with the impacts of modern industrial nations. (BALANCE)

Dimension: Possibility of an eco-crisis

5. Humans are severely abusing the environment. (ABUSING)

6. The so-called "ecological crisis" facing humankind has been greatly exaggerated. (CRISIS)

A preliminary analysis found relatively low internal consistency among the six NEP items (Cronbach's $\alpha = .562$). Moreover, because the primary aim of this analysis was to determine how specific beliefs about the environment were related to concern for animal welfare, the six NEP scale items were treated as separate variables.

It should be noted that there is precedent for using a subset of NEP items in research and for treating the scale items as multiple variables (Dunlap, 2008). In a review of research, Dunlap (2008) reported that studies using five or more items from either the original or revised NEP Scales have been included in meta-analyses of studies using the NEP Scale. Moreover, the authors of the revised scale (Dunlap et al., 2000) suggested that the decision of whether to treat the NEP Scale as a single scale or as multiple variables should "be based on the results of the particular study" (Dunlap et al., 2000, p. 431). In the current study, the low internal consistency of the items (as reflected in the value of Cronbach's α , reported in the previous paragraph) and the purpose of the research justified their use as separate variables.

Results

Descriptive Measures

Of the 102 respondents who specified their gender and educational status, 85.3% were female and 76.5% were undergraduates. The participants' ages ranged from 18 to 68 years ($N = 103$), with a mean of 30.79 ($SD = 10.002$) and a median of 28.

Table 1 displays the mean scores for animal welfare concern and the six NEP items and shows the percentage of respondents who scored at the upper, pro-animal welfare and pro-environmental end of the continuum for each item (a score of 3 or 4 on the measure of animal welfare concern and a score of 4 or 5 on the NEP items). The level of animal welfare concern is high in this sample, with a total of 76.9% of the respondents reporting they are moderately or very concerned about animal welfare issues (Table 1). The percentage of respondents scoring in the pro-environmental range of the NEP items varies widely, from a low of 47.7% who reject the belief that "humans have the right to modify the natural environment to suit their needs" (MODIFY) to a high of 95.2% who endorse the belief that "humans are severely abusing the environment" (ABUSING) (Table 1).

Table 1. Descriptive Statistics for Animal Welfare Concern and NEP Items

	N	%	Mean	SD
<i>Animal Welfare Concern</i>	104		3.03	0.756
Moderately concerned		49.0		
Very concerned		27.9		
<i>NEP Items</i>				
MODIFY*	105		3.12	1.412
Mildly or strongly disagree		47.7		
BALANCE*	103		3.53	1.413
Mildly or strongly disagree		57.3		
CRISIS*	104		3.78	1.070
Mildly or strongly disagree		61.5		
INTERFERE	104		4.32	0.862
Mildly or strongly agree		87.5		
EXIST	105		4.62	0.859
Mildly or strongly agree		91.4		
ABUSING	105		4.59	0.781
Mildly or strongly agree		95.2		

*Item was reverse scored

Demographic Predictors of Animal Welfare Concern and Environmental Beliefs

Age and educational status (graduate or undergraduate student) were not significantly related to animal welfare concern. Compared to men, however, women scored significantly higher on animal welfare concern ($t = 2.099$, $df = 100$, $p = .038$).

There were no significant gender or age differences in scores on the NEP items. Educational status was significantly related to only one NEP item. Specifically, graduate students were more likely to disagree with the item stating that "the balance of nature is strong enough to cope with the impact of modern industrial nations" (BALANCE) ($t = 2.171$, $df = 99$, $p = .032$).

Table 2. NEP Items and Animal Welfare Concern (Pearson's r)

	<i>Animal Welfare Concern</i>	
	<i>r</i>	<i>N</i>
<i>NEP Item</i>		
EXIST	.330***	104
MODIFY*	.287***	104
INTERFERE	.197**	103
BALANCE*	.131	103
ABUSING	.118	104
CRISIS*	.344***	104

* Item was reverse scored. ** $p < .05$, *** $p < .01$

Relationships between Environmental Beliefs and Animal Welfare Concern

Animal welfare concern was positively and significantly correlated with four of the six NEP items (Table 2). The four NEP items included one item measuring belief in the fragility of nature's balance (INTERFERE), one item measuring belief in the possibility of an eco-crisis (CRISIS), and both items assessing anti-anthropocentrism (EXIST and MODIFY) (Table 2).

Discussion

Limitations of the Study

This study focused narrowly on social work students enrolled in a Hispanic-serving university in a low-income county in the U.S-Mexico border region. Thus, the findings cannot be generalized to other regions with different demographic characteristics. Moreover, although the low survey response rate (25.9%) is not atypical for internet surveys (Kaplowitz, Hadlock, & Levine, 2004), generalizations cannot be made to the student population from which the sample was drawn.

The study's measures were also limited. The survey did not include questions on ethnicity and income, which previous studies have found to correlate with environmental and animal welfare attitudes. In an effort to make the survey brief and thus maximize response rate, the investigator included only six NEP items, and animal welfare concern was measured with a single item. The survey did not define "animal welfare issues" and did not provide a frame of reference for the respondents. As a result, the respondents may have interpreted the meaning of this item in different ways, and they could have answered with reference to either their personal feelings or their professional training.

Interpretation of Major Findings

In this sample, level of concern about animal welfare issues was relatively high. The demographic composition of the sample may explain this finding. Specifically, 85.3% of the respondents were female, and previous research has shown that women are more likely to have a positive orientation to animal welfare issues (Herzog, 2007). Indeed, consistent with previous research, the female respondents in this study scored significantly higher than the male respondents on animal welfare concern.

On five of the six NEP items, the majority of respondents endorsed a pro-NEP stance, and on two of the five, over 90% of the respondents were pro-NEP. This finding is consistent with a body of research suggesting that the ecological worldview measured by the NEP scale is increasingly endorsed across samples and populations (Dunlap, 2008; Lundmark, 2007).

While it is tempting to believe that environmental concern

is generally increasing, the reality may be more complex. For example, in a survey of the U.S. population, the Pew Research Center (2011) found that the percentage of respondents who believe global warming is a serious problem increased from 32% in 2010 to 38% in 2011. However, in 2006 the percentage was 43%. Thus, attitudes toward specific issues do not necessarily reflect a clear trend toward greater environmental concern.

Previous research has produced mixed findings regarding the relationship between postsecondary education and environmental concern (Johnson et al., 2004; Olli et al., 2001; Pew Research Center, 2011). In the current study higher educational achievement (graduate versus undergraduate) was a significant predictor of only one NEP item.

This study assessed three dimensions of an environmental worldview: (1) belief in the possibility of an eco-crisis, (2) belief in the fragility of nature's balance, and (3) rejection of the idea of humans' right to dominate nature. All three of these dimensions of an environmental belief system are found in the literature on environmental social work (Besthorn, 2008); however, concern for animal welfare was most consistently related to rejection of human's right to dominate nature (anti-anthropocentrism).

To understand this finding, it is helpful to explore the concept of anthropocentrism more fully. In the field of environmental ethics, anthropocentrism is at one end of a continuum representing types of relationships humans can have with the natural environment (Lundmark, 2007). In the anthropocentric worldview, humans are regarded as being separate from nature and having greater worth than other organisms.

At the other end of the continuum is ecocentrism, which views the natural environment as "complex webs of ecological interdependence" (Lundmark, 2007, p. 331). In the ecocentric worldview, humans are part of the environment, not separate from it, and therefore human welfare is bound to the welfare of the whole. In contrast to anthropocentrism, in which only humans have intrinsic value, ecocentrism grants intrinsic value and rights to individual organisms and collectives, such as species and ecosystems (Lundmark, 2007).

By granting rights and respect to individual members of other species, as well as entire species and ecosystems, the

ecocentric perspective makes explicit the connection between the natural environment and animal welfare. Strictly speaking, "anti-anthropocentrism," as measured in the current study by two NEP items, is not equivalent to ecocentrism, which is at the far end of the continuum (Lundmark, 2007). Nevertheless, it is not surprising that respondents who scored high on items measuring anti-anthropocentrism were more likely to report concern for animal welfare.

Implications for Social Work Education

Beliefs and attitudes are affected by a number of social, economic, and cultural factors. In light of the previously enumerated limitations of this study, much additional research is needed to understand the relationship between social work students' environmental beliefs and animal welfare attitudes. Among other variables, such research should explicitly consider the effects of ethnicity, income, and regional context.

In this study environmental beliefs were assessed using items in the revised NEP Scale (Dunlap et al., 2000) that coincide with themes in the literature on environmental social work (e.g., Besthorn, 2008). The results showed that concern for animal welfare was positively and significantly correlated with four of the six items used to measure environmental beliefs. The correlations were not strong, however, which suggests that social work educators could strengthen their efforts to apply the environmental social work perspective to an understanding of the connections among human well-being, the health of the natural environment, and the welfare of other species.

In integrating content on the natural environment and animal welfare into the curriculum, social work educators face the challenge of providing a context, or "frame," for their message that resonates with their target audience. Regardless of the complexity of environmental and animal welfare issues, the basic ideas need to be conveyed in a way that is simple and straightforward (Lakoff, 2010).

Social work educators can use a basic ecological concept, interconnectedness, as a "frame" for a three-fold environmental message: (1) because everything is connected, harm to the natural environment or other species hurts humans; (2) because everything is connected, social work interventions that

harm the environment, including non-human species, have long-term negative consequences for people; and (3) because everything is connected, ignoring the impacts of human activity on the natural environment precipitates ecological crises.

To foster a broader ecological worldview, social work educators may need to help students analyze the critical connections among the health of the natural environment, animal welfare, and human well-being. Indeed, environmental degradation, animal abuse, and human health are deeply intertwined. These connections are made explicit, for example, in analyses of industrial farm animal production, or "factory farming." Numerous studies indicate that the industrial farm agriculture system creates public health risks, threatens global food security through intensive use of natural resources, inflicts extreme suffering on nonhuman animals, and is a major source of the world's greatest environmental problems, including air, water, and land pollution, deforestation, water scarcity, loss of biodiversity, and global warming (Cassuto, 2010; Hicks, 2011; Pew Commission, 2008; Steinfeld et al., 2006; UNEP, 2010).

By highlighting the contrast between using the environment for human purposes, on one hand, and respecting the intrinsic worth of other species and ecosystems, on the other hand, the continuum ranging from anthropocentrism to ecocentrism can be useful in analyzing complex, interrelated environmental and social issues. Examining the connections among these issues may, in turn, foster broader concern for the natural environment and animal welfare. In the end, the effectiveness of social work practice in an era of environmental crises may be determined by the extent to which students achieve an ecological worldview encompassing the welfare of all individuals, species, and ecosystems.

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Institutionalizing Harm in Tennessee: The Right of the People to Hunt and Fish

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What discourses render harm to nonhumans a right? In this article we consider the case of Tennessee's Senate Joint Resolution 30, which proposed to grant citizens "the personal right to hunt and fish." To clarify the institutional logics legitimizing such harm, we analyzed the text of the Resolution as well as statements by politicians and others leading up to the passage of the amendment the Resolution would enact. Logics that supported the Resolution were: (1) claims of the economic utility of hunting and fishing; (2) veneration of the past; and (3) claims of future infringement on said activities. Nonhuman targets of harm go unmentioned in these legitimizing discourses.

Key words: Harm, hunting, fishing, legislation, dehumanization

In this paper we ask how harm to nonhumans becomes legitimized, following a tradition in the social sciences that posits legitimizing logics or discourses as grounds for action. Our contribution is to analyze discourses promoting the legislation of harm as a right.

Senate Joint Resolution 30, adopted by the Tennessee State Legislature March 30, 2010, advanced an amendment to the state constitution that would grant citizens "the personal right to hunt and fish." State Senator Doug Jackson, a Democrat, authored and proposed the Resolution in the Tennessee Senate, whereas Representative Joe McCord, a Republican, and Representative Judy Barker, a Democrat, sponsored the resolution in the House of Representatives. The Resolution passed in the Senate unopposed (30 - 0) in January 2010 and in the House (90 - 1) in March 2010. Adoption of the Resolution resulted in a ballot measure that appeared on Tennessee voter

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ballots on November 2, 2010. The Tennessee Hunting Rights Amendment passed with more than 87 percent of the vote and thereafter became part of the Tennessee State Constitution. The Amendment is a symbolic gesture more than a practical one, as it changes nothing of substance about hunting and fishing in the state.

Our analysis of the text of the Resolution, as well as statements by politicians and others leading up to the passage of the amendment it would enact, uncovered the following supportive logics: (1) claims of the economic utility of hunting and fishing; (2) veneration of the past; and (3) claims of potential infringement on those practices. Through these three logics, speakers identified themselves as guardians of a historical legacy. The discourses revealed in our study constructed speakers and their activities—not animals, nor even the relationship between nonhumans and humans. Other scholars have revealed how nonhuman animals are constructed—for example, as resources (Stibbe, 2001) or sexual objects (Adams, 1994). In legislating the right-to-harm via Senate Joint Resolution 30, speakers neglected to mention their targets altogether. Such exclusions are striking, since extermination of these targets is central to the activities at stake. Nonhuman animals were not identified as agents in the discourse on the license to harm them.

Acculturation into the Permissibility of Harm

Whereas thought has the reputation of being “independent,” fundamentally taking shape in individual minds, the cultural milieu makes a thorough-going impression on our thinking. Eviatar Zerubavel (1997) considers society as “a critical mediator between reality and our minds” (p. 78) and details the acculturation of each of the following cognitive processes: perception, attention, classification, symbolizing, memory, and timing things. Concerning nonhuman animals, our culture has classified some as harm-worthy and others as care-worthy:

Note that while it is quite common for people to talk to their cats, name them, kiss them, and feature them quite prominently in family photo albums, rarely do they do any of these things with the mice they find in

their kitchens or with their wallets. Such difference, of course, is a result of the way we usually classify nonhuman objects in terms of their perceived proximity to us. Yet such "proximity" is entirely conventional, since cats, after all, are not inherently closer to us than either mice or the wallets we carry on us almost constantly. (Zerubavel, 1997, p. 54)

The acculturation of attention, likewise, has implications for our treatment of nonhuman animals. Zerubavel (1997) notes that through the process of "moral focusing" we draw a "circle of altruism" around certain beings. "Any object we perceive as lying 'outside' this circle ... is essentially considered morally irrelevant and, as such, does not even arouse our moral concerns" (p. 39). Case in point: Beirne (2009) notes that brutality toward companion animals causes horror, galvanizing legal action and scholarly inquiry, more than the institutionalized violence to animals we come to consume. Harm to nonhumans for the sake of eating them tends to be taken for granted. "Eating animals has an invisible quality," writes Jonathan Foer (2009, p. 29). If pondered at all, it is taken to be good, such as a means to good health (Adams, 1994).

How does acculturation operate? Zerubavel (1991) states: "The social construction of discontinuity is accomplished largely through language" (p. 78). A range of social theorists agree: the acculturation process is discursive. Culture consists in texts, or discourses—modes of knowing and communicating. This perspective—indeed, the term discourse—is widely associated with Foucault, who wrote:

Truth is a thing of this world: it is produced only by virtue of multiple forms of constraint. And it induces regular effects of power. Each society has its regime of truth, its 'general politics' of truth: that is, the types of discourse which it accepts and makes function as true; the mechanisms and instances which enable one to distinguish true and false statements, the means by which each is sanctioned; the techniques and procedures accorded value in the acquisition of truth; the status of those who are charged with saying what counts as true. (Foucault, 1984, pp. 72-73)

Others insist that the world has a reality—or truth—that preexists discourse, even as it is shaped by it. Fairclough (1992), for example, observes that material realities work in conjunction with discourse to order social life. Responding to Foucault's work, he states:

While I accept that both 'objects' and social subjects are shaped by discursive practices, I would wish to insist that these practices are constrained by the fact that they inevitably take place within a constituted, material reality, with preconstituted 'objects' and preconstituted social subjects. (Fairclough, 1992, p. 60)

Across the academy, scholars consider how stories animate behavior, providing a script for both individual and group behavior (Bruner, 1990; Polletta, 2006; Sarbin, 1986; White, 1980). While stories, or narratives, are not the only discursive devices that shape behavior, they are especially influential, apparently because people take stories to be uniquely authentic (Polletta, 2006) and because stories lend a dramatic quality to human experience (Bruner, 1990). Accordingly, Presser (2009) calls for a narrative criminology to uncover the story forms and components that promote harmful action.

Largely independent of the aforementioned ideas, sociologists and social psychologists have shown that verbalizations channeled in advance of conduct are consequential to such conduct. They have given such verbalizations different names, including vocabularies of motive (Mills, 1940), neutralizations (Sykes & Matza, 1957), mechanisms of moral disengagement (Bandura, 1999), anticipatory accounts (Murphy, 2004) and, most infamously, propaganda. Criminologists have made extensive use of Sykes and Matza's (1957) five "techniques of neutralization"—denial of responsibility, denial of injury, denial of the victim, condemnation of one's condemners and appeal to higher loyalties—with which actors legitimize crimes before perpetrating them. They have constructed new techniques of neutralization to explain a variety of deviant acts (Maruna & Copes, 2005). None of these scholarly works attends to harm done to nonhuman animals.

Numerous chronicles of genocide, war and terrorism stress the importance of constructing targets in reductive terms (e.g.,

Alvarez, 1997; Collins & Glover, 2002; Gamson, 1995; Hagan & Ryman-Richmond, 2009; Hatzfeld, 2003; Kelman, 1973). Much has been made of dehumanization in particular. Young (2003) observes that "if unfairness provides a rationalization for violence, dehumanization permits it" (p. 403). Kelman (1973) theorizes that "three interrelated processes ... lead to the weakening of moral restraints against violence: authorization, routinization, and dehumanization" (p. 38). In these writings, violence is codified as harm to humans. Nonhumans are excluded, because the process cannot logically apply to them. Here we see that scholars themselves construct harm in ways that permit harm to nonhumans.

Bracing analyses that expose the discursive foundations of harm to nonhumans include work by Carol Adams and Arran Stibbe. Adams (1994) observes: "We have structured our language to avoid the acknowledgement of our biological similarity" (p. 64). For example, "the generic 'it' erases the living, breathing nature of the animals and reifies their object status" (p. 64). Stibbe (2001) explores the discourses of the meat products industry in particular. Discourses that legitimize harm to (some) animals include: scientization of the harm; naturalization of human dominance; animals as inanimate resources; and nominalization of harmful practices, which erases the agent and disguises agentive specifics. An example of the construction of animals as resources is the reference to "bird damage" instead of injury in a poultry trade magazine (Stibbe, 2001, p. 155).

In addition to telling us who the target is, our cultural milieu tells us who we are as actors. It sets out characters, such as the archetypal hero and villain. The present study provides answers to the question: How does legislation supportive of harm to nonhumans construct the harm agents and the practices in question?

Research Methods

Our study concerns the cultural construction of hunting and fishing as rights, and not how people who hunt and fish themselves talk about their actions—talk that is likely to be less idealistic than the talk of advocates (see Presser & Taylor, 2011). It is the idealization (and possible obfuscation) of harm

practices that we wished to explore. Given that focus, we turned to media accounts of the ballot measure in question. We analyzed 14 online news articles and editorials which discussed the measure. These represented all news items that we located through an Internet search (conducted in September 2011) using key words "Tennessee hunting and fishing right." All but one item included in the sample were published between September 2010 and October 2010—just prior to the referendum appearing on the ballot November 2, 2010. The one article that fell outside of this time frame was published months earlier, in January 2010, after the Resolution was adopted by the Senate (The Chattanooga.com, 2010). Table 1 displays detailed information on news outlets and article types.

Table 1. Breakdown of Data Source Outlets and Article Types

Outlets	Editorials	News Stories	Outlet Total
Knoxnews.com	1	1	2
Nashville City Paper	1		1
The Chattanooga	1	1	2
The Memphis Daily News		1	1
My Fox Memphis		1	1
Nashville News Channel 5		1	1
Stateline		1	1
Chattanooga Times Free Press		1	1
WATE.com		1	1
Dryersburg State Gazette		1	1
The Commercial Appeal	1		1
Nashville Public Radio		1	1
<i>Article Type Totals</i>	4	10	14

For the analysis we coded themes raised in discussion of the legislation. We were guided by cultural theories, for as Weber says of content analysis, "texts do not speak for themselves" (Weber, 1990, p. 80). We were influenced by past scholarship on cultural devices used to license the activities in question. Stories, accounts, and neutralizations legitimize action on

the basis of characteristics of the actor, the action, or potential critics. We reviewed and coded all the data by asking and answering the questions: What is the logic or reasoning that is being developed? What propels the legislation? Who is the stakeholder—the legislator or writer—in relation to the activity in question? To code is to place data into categories; the data here are discourses, thus we sought to categorize the various discourses that answered the aforementioned questions.

Results

We discerned three discourses used to legitimize the Resolution: (1) claims of the economic utility of hunting and fishing; (2) veneration of the past; and (3) claims of future infringement on said activities. In this section we discuss how exactly these discourses, or logics, were put to use.

From the start, we observed that ‘rights’ were a key tool of legitimization. That is, communications in and concerning the Resolution and the Amendment channeled the preeminence of rights. One reporter noted: “Though there is no direct threat to hunting or fishing in the state, supporters of the amendment said it is necessary to ensure that future sportsmen have those rights” (Tang, 2010). Watson (2010) observed that “the right to hunt and fish was considered for inclusion in the U.S. Constitution, but was thought to be such a basic right in the free New World that it was unnecessary to codify.” In each of the aforementioned statements, “rights” are mentioned as the proper instrument for permitting the harm. Rights are self-evident—“basic”—if they are qualified at all. But why this right? For an answer to that question, we had to consider other statements and other themes. Rights were not foundational as a source of legitimacy.

Economic Utility

Hunting and fishing were defended on the grounds that they are profitable. The Resolution reads, in part: “Indeed, hunting and fishing are a vital part of this state’s heritage and economy and should be preserved and protected” (Jackson, 2010). Tang (2010) reports: “Supporters said the amendment will protect a \$2.4 billion a year business in the state, one that creates 30 thousand jobs in Tennessee.” In an

editorial, Representative Eric Watson (2010) commented that such figures do not “count the motel rooms, meals in restaurants, gas purchases and entertainment dollars that hunters and fishermen—from Tennessee and across America—spend in our communities every day” (Watson, 2010). One newspaper account quoted Representative Judy Barker on the economic benefits of hunting and fishing: “When you think of all of the motel rooms, boat and ATV dealers, guides, bait shops and restaurants that depend on hunters and fishermen, you see that it’s big business, not only in West Tennessee but across the state,” said Barker in a press release. “Without even counting the private dollars spent on leasing land by sportsmen, the annual economic impact of hunting and fishing in Tennessee exceeds \$2.4 billion.” She added that the revenues generated by the purchase of hunting and fishing licenses, along with taxes on related equipment, fund the TWRA almost exclusively. “These dollars fund the management of our wildlife and fisheries resources, and they contribute greatly to the open space we all enjoy for not only hunting and fishing, but for hiking, camping, bird-watching and more,” said Barker (Dryersberg State Gazette, 2010, para. 12-14).

Barker enumerates the benefits of revenues in terms of other activities, some of them related to sustaining and appreciating animals. So far, we see that the agent who seeks protection of the capacity to hunt and fish is a member of an economy. But that is not all this agent is. Economic interests are not the only kind that this agent seeks to advance, according to the discourse.

Venerating the Past

In statements concerning the Amendment, what is old and long-standing is good. Senator Doug Jackson stated: “The tradition of hunting and fishing is worth defending” (The Chattanooga.com, 2010, para. 6). Tony Dolle, communications director of Ducks Unlimited, a non-profit wetland conservation group, remarked: “In order to help ensure that our hunting heritage continues, when amendments like this come up we support them” (Trevizo, 2010, para. 43).

The Resolution itself leads with the following statement venerating the past (Jackson, 2010, p. 1):

Whereas, the Legislature finds that hunting and fishing are honored traditions in the state of Tennessee; and whereas, from the time prior to statehood, citizens have enjoyed the bounty of Tennessee's natural resources, including hunting and fishing for subsistence and recreation. Indeed, hunting and fishing are a vital part of this state's heritage and economy and should be preserved and protected.

That which is traditional is "honored" and moreover "vital." Furthermore, it is "the state's duty to honor this heritage and its duty to conserve and protect game and fish," the Amendment continues (Jackson, 2010, p. 1).

Whereas most speakers placed hunting and fishing in a halcyon past, one took a reflexive stance on that story itself. Larry Woody, a Nashville sports writer, describes the role that hunting and fishing play in a desired vision of 'what was':

Unlike our pioneer ancestors, few Tennesseans today hunt and fish for subsistence. Instead it is affirmation of an outdoors heritage and a connection to a nostalgic past, following bird dogs through frost-sparkling fields and wading gurgling trout streams; a time when youngsters shivered with excitement beside their dads in duck blinds instead of being mentally and physically desiccated by video games and television. (Woody, 2010, para. 14)

In that formulation, hunting and fishing evoke the past and thus gain the attraction that the past holds for people generally. Remarkably, hunting and fishing reflect 'life,' including live animals, trout and bird dogs, whereas their alternatives are associated with desiccation, the physical condition of the dead and the dying.

Representative Eric Watson gives a more far-reaching historical account:

The right to hunt and fish has been a central element of human societies for thousands of years. All the way back to ancient Rome, democratic societies have recognized the individual right to hunt and fish. In England, the banning of hunting and fishing for all but the ruling class was one reason for the colonists'

defection to America. In fact, the right to hunt and fish was considered for inclusion in the U.S. Constitution, but was thought to be such a basic right in the free New World that it was unnecessary to codify. (Watson, 2010, para. 13-14)

For Watson, hunting and fishing go beyond Tennessee history to the history of humankind in general.

Watson's rhetoric is consistent with Fiddes' (1999) anthropological observation that "western society has traditionally used the beginnings of hunting as an indicator of the origins of humanity" (p. 225). That indicator, while erroneous in fact, suggests "the hidden message ... that we only became civilized when we began to exercise our ability to dominate other creatures by killing and eating them" (p. 226). If we follow Fiddes' analysis, the emphasis on tradition in the Tennessee discourse is an insistence on the powerful self—an agent who achieves mastery over others. However, as we see next, the powerful self may be threatened.

Under Attack

When speakers referred to the past, they presented hunting and fishing in a positive light. But speakers used negative logics as well. In fact, the most prominent theme in endorsements of the Tennessee amendment, which appeared in 12 of the 14 total articles, referred to protection from threatening others, specifically, those who would oppose hunting and fishing. The person who kills nonhuman animals is under attack. Thus, whereas the theme of tradition advances the self as powerful, this logic advances the self as potentially vulnerable to a loss of power.

Representative Watson explained: "People sort of understand it and know it, but without it being a part of the actual framework of the constitution, it leaves open the opportunity for the government to infringe on people's rights to hunt and fish" (quoted in Trevizo, 2010, para. 8). More straightforwardly, Woody stated: "The amendment would provide a safeguard by allowing hunters and fishermen the means to appeal any challenge to the right to the Tennessee Supreme Court" (Woody, 2010, para. 7).

The experience of other states is an important referent in

the logic of defense. One journalist observed: "Amendment advocates, including Butler, often cite the example of Michigan outlawing the hunting of doves" (Humphrey, 2010, para. 18). Another journalist noted: "While Tennessee hasn't had too many flare-ups with anti-hunting organizations, other states have seen game laws changed or gutted and seasons lost after animal rights organizations spent major dollars to get game laws changed (Hodge, 2010). In these accounts, those who hunt and fish are underdogs threatened by the superior resources of their adversaries. Butler tells the story of a protagonist under siege—a David against Goliath.

What we've known for a long time is that the only protection Tennessee citizens have from the will of the Legislature—other than voting them out of office—is the state constitution. Who's to say that, 20 or 30 years from now, we'll have a majority of the Legislature, willy-nilly, saying, 'We've got to do away with this,' because it's the popular thing to do? (Humphrey, 2010, para. 21)

Woody is certain of the threat:

There is no question that hunting and, to a lesser extent fishing, are under siege in an increasingly urbanized society. Anyone who argues otherwise is either abjectly misinformed or deliberately deceptive. The right to hunt and fish has become like everything else in modern society: If we want it protected, we'd better get it in writing. (Woody, 2010, para. 15)

Others frame the threat as a mere future possibility, though one that is prudent to guard against now: "While there are threats in some states I'm sure ... there haven't been any threats that I know of in Tennessee. It's just good insurance" (Dolle, cited in Dries, 2010, para. 23). "Do you want to buy the alarm when there's someone in your home? No. You buy it first, get it in place, and it protects you," said Michael Butler, CEO of the Tennessee Wildlife Federation (Tang, 2010, para. 7).

If we wait, we will be too late. All over America, people are working to ban hunting and fishing. As Tennessee citizens, if we wait until we need a right to

hunt and fish, we will be too late. Anti-hunting and fishing activists have had success in other states, and they are well funded. They accomplish their objectives legislatively and through the courts. The constitutional amendment will offer much greater protection from frivolous lawsuits, activist judges and misguided legislation. (Watson, 2010, para. 23-24)

Adversaries included the Legislature (Humphrey, 2010), "liberal animal rights groups" (My Fox Memphis, 2010, para. 3) and "activist courts" (Sumerford, 2010, para. 4), both cunning and ignorant (offering "misguided legislation" [Watson, 2010, para. 24]). Hunting and fishing become heroic struggles against these formidable foes. In fact, as noted in one article, People for the Ethical Treatment of Animals (PETA), one of the animal rights groups mentioned, had no designs on limiting hunting and fishing in any state (Dries, 2010). Nevertheless, the story of struggle of the weak against the strong motivates and mobilizes. It has a cultural resonance which those who oppose harm to animals would do well to channel.

Concluding Remarks

The killing of animals for food—like all other human action—is discursively pre-configured. That is, our desires and justifications thereof are themselves socialized. In defense of Tennessee's Senate Joint Resolution 30 endorsing citizens' rights to hunt and fish, speakers drew upon cultural discourses concerning self, other, and the activities in question. They channeled an economic utility discourse, they insisted on the importance of a cherished past in which hunting and fishing were common, and they conjured a struggle against formidable foes who would threaten hunting and fishing.

Fiddes' (1999) observation that hunting is a signifier for human domination led us to wonder whether an additional, perhaps implicit logic of the legislation was the domination of women by men. The gender order is another system of domination and one that some have linked to domination of nonhumans (see, for example, Adams, 1994). Turning to our data, we observed that several articles made reference to "sportsmen" as the Amendment's stakeholders. Representative Bill Dunn

highlighted the importance of the legislation in terms of preventing future actions by “activist courts” that do things like upset the gender order: “For thousands of years, marriage was between a man and a woman. Courts show up and say no, it can be between a man and a man” (Sumerford, 2010, para. 4). And, while one of the two sponsors of the Resolution in the House of Representatives was a woman (Judy Barker), the sole member of the House of Representatives voting against the Resolution was a woman (Johnnie Turner) (Dryersberg State Gazette, 2010; Humphrey, 2010). Thus we surmise that the discourse advancing the right to hunt and fish is linked with gender conservatism, though the strength of that link is difficult to determine from the evidence at hand.

More generally, the Amendment may be seen as a story its supporters tell. In the past, life was sweet for humans (men) living it. Whereas that life is no more—for reasons not specified in the story—certain adversaries threaten to block even the potential for its return. The Amendment recaptures the past and fends off those adversaries, while also gleaning economic benefits. What goes unsaid in this account are the (nonhuman) lives taken and the fact that economic shifts, and not activists, relegated hunting and fishing to the past. But activists are well suited as adversaries in the larger political agendas of supporters of the legislation. Those supporters target activists but are silent on the activists’ message—that we ought not do harm to nonhumans.

Indeed, speakers had nothing to say about the objects of the harm: they were simply not mentioned. Hence, Judith Butler’s (2004) words apply. Concerning the exclusion of Palestinian deaths due to Israeli violence from *San Francisco Chronicle* obituaries, she writes: “There is less a dehumanizing discourse at work here than a refusal of discourse that produces dehumanization as a result” (p. 36). That which is not said (and is aggressively excluded) is consequential. We have problematized the emphasis on dehumanization, but agree with Butler’s point, that ‘a refusal of discourse’—the work of exclusion—is perhaps the most harm-conducive stratagem of all. That insight is important, because the modern-day machinery whereby animals are raised and slaughtered for their meat and other bodily products—the primary means by which animals are made to suffer in contemporary Western societies—runs on

our dissociation and silence.

Our study stands in contrast to those from the field of human violence, where emphasis is placed on dehumanization. Certainly, those who are not human cannot, logically speaking, be conjured as less human. We find, furthermore, that the target for harm need not be derogated at all. No resentment pertains to appeals to harm nonhuman animals via hunting and fishing. Instead, appeals made to promote the legislation are all "about" the actor her/himself.

It did not surprise us that that actor's economic interests and the economic value of hunting and fishing were key themes in their legitimization. It did surprise us that this utilitarian argument was less prominent than the aforementioned normative ones. Its lesser prominence seems to suggest that when it comes to doing harm, utilitarian appeals do not have the necessary resonance that normative or moral ones do. We view this as a hopeful sign.

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Shelter from the Storm: Companion Animal Emergency Planning in Nine States

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Failure to evacuate pets in an emergency has negative implications for public health, the economy, emotional well-being of pet owners, and physical health of animals. These effects may be at least partially mitigated by a robust plan to accommodate pets. Nine state companion animal emergency plans were reviewed to determine the extent to which they addressed the needs of companion animals, utilizing characteristics of a model emergency plan. States were compared utilizing variables such as population, pet friendliness, and emergency preparedness funding in order to explain differences in plan composition. This comprehensive review produced a list of recommendations for emergency managers as they create future versions of their plans.

Key words: Companion animals, emergency planning, animal welfare, disaster management

The percentage of households in the United States that own pets exceeds the percentage of households with children. In 2007, over 37 percent of households owned dogs and over 32 percent owned cats, while just over 31 percent of households in 2005 had children under the age of 18 years (American Veterinary Medical Association [AVMA], 2007; United States Census Bureau [USCB], 2009). The extraordinary number of households with pets demonstrates just how ubiquitous companion animals are in humans' lives. Additionally, pet owners overwhelmingly consider their animals to be family members. A recent Pew Research Center poll found that 85 percent of dog owners consider their pets to be family, while 78 percent of cat owners said the same (Pew Research Center, 2006). It is

unsurprising, then, that pet owners are reluctant to leave their companion animals behind when emergency strikes and evacuation becomes necessary.

In order to alleviate concerns about animal well-being and emotional trauma to pet owners, it is incumbent upon emergency management officials at all levels of government to ensure that animal welfare and care are taken into account when designing plans for emergency response. In the aftermath of Hurricane Katrina, when it was evident that thousands of pets were lost or abandoned, the United States Congress passed the Pets Evacuation and Transportation Standards (PETS) Act of 2006, an amendment to the Robert T. Stafford Disaster Relief and Emergency Assistance Act. The PETS Act requires that states receiving federal funding for emergency operations incorporate provisions for companion animals into their emergency plans. States may have chosen to do so independently prior to implementation of the requirement, but as officials are forced to shift priorities due to economic hardship or political environment, some states may have skipped the planning process altogether.

Whereas previous exploration of this subject has tended to focus on the reasons why emergency planning for animals is prudent, no study has attempted to gauge the quality of companion animal plans as devised by state emergency management officials and their partner agencies. To achieve congruence between plans for companion animals and the goal of safety and well-being of citizens, emergency management officials must be armed with the knowledge necessary to construct an effective plan. Examining the variables that differentiate states may highlight areas and best practices not previously considered in similarly situated states. The recommendations devised will help guide officials as they create or modify their states' plans, eventually resulting in more standardized, robust plans for the entire nation and its companion animals.

Literature Review

The Case for Companion Animal Planning

As with planning for humans in an emergency, planning for animals is prudent, even from a purely economic standpoint. A thorough plan will encourage efficiency through a

decrease in duplication of effort among agencies involved in emergency operations (Perry & Lindell, 2003; University of California, Division of Agriculture and Natural Resources [UC DANR], 1999). Without a clear, all-inclusive emergency plan, public officials, as well as their nonprofit partners, may find themselves in an inefficient tangle of disorganized sheltering operations. This makes caring for animals difficult at best (Hudson, Berschneider, Ferris, & Vivrette, 2001) and heightens frustration and fear for pet owners.

Accurately quantifying the costs and benefits of disaster planning for companion animals may be nearly impossible due to subjective measurements of human and animal suffering. However, these elements should not be discarded, but rather regarded as supportive narrative in the conversation surrounding resource allocation for emergency planning. Leonard and Scammon (2007) suggest a structure for classifying the various implications of neglecting companion animal preparedness: public health concerns; the well-being of companion animals; the emotional toll on individuals who have a close relationship with their pets; and economic impacts, which are derived largely from the other three categories of consideration.

Public health. Public health is of concern in evacuating animals. Uncontained bodily waste may spread disease among live animals that are left to wander. In limited cases, when the disaster involves water, communicable diseases may also transfer to humans via animal carcasses (Pan American Health Organization, 2004). Contact with wildlife and vermin may expose unvaccinated companion animals to the rabies virus. These potentially harmful illnesses could affect not only animals and evacuees in the immediate area, but also rescue workers who are essential to recovery efforts. Roaming animals, even those whose history includes no prior aggression toward humans, may become fearful and lash out. A risk to public health also exists when desperate pet owners evacuate without their animals, then return to an unsafe situation to rescue them, often illegally (Cattafi, 2008). In the most extreme cases, owners who choose to stay behind with their animals may find themselves in inescapable situations wherein they choose to remain in their homes at great risk to their lives.

Welfare of companion animals. If animals are left behind when owners evacuate, they are more vulnerable to harm, illness,

and death, in addition to the diseases discussed in relation to public health. In the case of Hurricane Katrina, rescued pets were found to have chemical burns from wading in contaminated flood water; emaciation; and heartworm (Raymond, as quoted in Harris & Reeves, 2006). Those who are not able to escape face drowning or starvation in the absence of an owner to care for them. Even pets who are rescued may face an untimely death. In the case of shelter overcrowding and no designated space in which to house displaced pets, perfectly healthy animals have been euthanized, as was the case for approximately 1,000 animals during Hurricane Andrew (Cattafi, 2008).

Emotional toll on pet owners. Detrimental psychological effects of leaving a companion animal behind, or worse, losing an animal to disaster, are well-documented. Lowe, Rhodes, Zwiebach, and Chan (2009) found that pet loss in a disaster was highly predictive of depressive symptoms, especially among those without a strong social support network. Hunt Al-Awadi, and Johnson (2008) found that pet loss in a disaster situation was associated with higher levels of depression, post-traumatic stress disorder, and anxiety. This pattern held even when the researchers controlled for losing one's home.

In addition, companion animals may serve as a source of comfort in times of hardship, elevating their value for individuals in stressful situations. In times of stress, animals serve as a calming presence, lowering strain among family members (Hall et al., 2004). Children have demonstrated lower stress levels during times of anxiety if a companion animal is present (Bryant, 1990), and lower cardiovascular reactivity has been demonstrated in adults who interact with dogs as well (Vormbrock & Grossberg, 1988). Pets, therefore, very likely serve as a source of comfort in times of disaster, when the threat of losing one's home, possessions, or livelihood threatens emotional well-being.

Economic concerns. Economic considerations are mostly drawn from the three previously discussed factors, especially in relation to public and mental health. The high costs of treating disease transmitted by contaminated water systems, bodily waste, parasites, or attacks by frightened animals have an economic impact on the health care system, which may already be overwhelmed in times of disaster. Hunt and colleagues (2008)

suggest that emergency planners consider the high costs of providing mental health care to those afflicted with depression or post-traumatic stress disorder due to pet loss or abandonment. Additional costs to be considered include: rescue worker time spent liberating animals from abandoned homes; costs to local or county government for carcass disposal; and costs of caring for injured or ill animals. There are additional costs to consider when arranging accommodations for animals during emergencies, such as building and maintaining shelters. However, the benefits to pet owners' emotional health, animals' physical health, and public safety, while difficult to quantify, may justify these costs in the long run.

Emergency Planning for Companion Animals

Though this study focuses on emergency preparedness for animals at the state level, emergency planning is an essential activity at every level of government. A comprehensive plan should include a written document, which may quickly become outdated if not reviewed on a regular basis (Perry & Lindell, 2003). Alexander (2005) allows that though each event is unique and no particular plan can address every eventuality, enough commonalities exist to justify planning activities such as hazard analysis and contingency arrangements. However, emergency plans may vary widely among localities, even among elements that may seem as if they should be standardized.

Variations in emergency plans. Differences between emergency plans may be explained by an assortment of variables unique to each region's political situation, geography, and resources. States with fewer resources may view emergency planning as an additional burden, unimportant relative to other essential functions, and therefore low on the priority list (Waugh & Streib, 2006). A state's size may determine the availability of written emergency documentation, as smaller localities tend to be less formalized and more dependent on personal relationships as the basis for planning activity (Perry & Lindell, 2003). Geography and a history of frequent emergency situations also play a role in variability among state emergency planning procedures (Federal Emergency Management Agency [FEMA], 2010b). States that are more frequently inundated with emergencies—such as those prone to hurricanes, earthquakes, and

wildfires—are more likely to view their plans as a routine skill rather than a document of intent (Perry & Lindell, 2003). Therefore, plans are less likely to be formalized in documentation, and more likely to be a result of having been through the procedures enough times that they are considered rote. This assertion may seem paradoxical to logic suggesting that repetition of plan implementation would result in stronger plans due to lessons learned. However, this assumption is subject to time and budget constraints that may hinder continual plan revision and improvement. Finally, and specific to emergency planning for companion animals, states may vary in the extent to which they are considered animal-friendly. States with existing laws protecting animal welfare may be expected to consider pets among their emergency planning priorities.

Nevertheless, conventional wisdom suggests that development of a comprehensive emergency plan for each state is essential, regardless of these variables. Perry and Lindell (2003) speak of formalization—generally resulting in a written document—helping to ensure a successful response to an emergency, with increased likelihood of several layers of response and fewer concerns about overlooking necessary information. As concerns about litigation arise, a comprehensive written plan can serve as a record of the state's efforts in protecting its citizens (Perry & Lindell, 2003; Waugh & Streib, 2006). In addition, state planning documents are required to be submitted to FEMA as a condition of receiving federal funding for preparedness activities (FEMA, 2007). These principles translate easily to the portions of emergency plans germane to companion animal welfare.

Attributes of a State Emergency Plan for Animal Preparedness

A detailed collection of instructions for mobilization can ensure at least a basic level of aid for companion animals and their owners in the event of an emergency. The following suggestions, though given for emergency plans in general, are easily extrapolated to companion animal planning as an element of a full plan, and specifically, the written document available for public consumption. These characteristics will be used to analyze companion animal emergency plans in selected states.

Data-driven. Emergency planners should use data gathered from hazard analysis to form the basis of planning efforts

(Alexander, 2005; Perry & Lindell, 2003). In the case of companion animal planning, an estimate of the number of animals in the state may be obtained in order to accurately gauge necessary supplies and human resources. The AVMA (2007) has devised a methodology for determining the number of animals in a given region, utilizing statistics it gathers regarding the number of households with pets and the number of pets per household. Edmonds and Cutter (2008) have further devised a methodology for calculation of the number of animals that may need assistance in an emergency situation. Through analysis of 29 evacuation studies from the years 1990 to 2005, Edmonds and Cutter arrived at 2.6 percent of households refusing to evacuate solely due to concerns about their pets. By multiplying this percentage and the number of households in a community, emergency planners will arrive at an estimate of the number of households needing evacuation assistance. Furthermore, since many households contain more than one pet, figures from the AVMA may be used to glean the average number of pets per household. This number can be multiplied by the number of households derived from the calculation above to arrive at an approximation of the number of pets needing assistance. This method of estimation is imperfect due to the difficulty of assessing the true number of pet owners who will refuse evacuation, but it provides a starting point for approximation.

Legislation. Plans must consider state laws, as well as any applicable federal legislation (Alexander, 2005; UC DANR, 1999). If plans do not follow guidelines set forth by legislation, or worse yet, contradict them, confusion may arise among emergency responders and other involved stakeholders. In addition, conflicting statements send a negative message about planning personnel and their review of applicable statutes and guidance, as well as the importance placed on companion animal planning.

Procedures and resources. Although an essential component of any emergency plan (FEMA, 2010b), guidance documents should not merely contain a list of supplies or other resources available to responders. The plan should also specify the processes to be undertaken in the event of an emergency (Alexander, 2005). Essential procedures to be detailed in an emergency plan for companion animals include provisions for housing pets during a disaster; transportation; equipment; and

tending to ill or injured animals (UC DANR, 1999).

Clarity of authority. Plans should contain unambiguous identification of not only which agency—whether public or private—is responsible for initiating action once an emergency becomes imminent, but which state agency has authority for any governmental decision making (FEMA, 2010b).

Collaboration. Collaboration among interested parties, as well as those with relevant expertise, is crucial in emergency situations (FEMA, 2010b; Perry & Lindell, 2003; Waugh & Streib, 2006). One agency simply cannot provide all functions involved in emergency response. In addition to government agencies, nonprofit organizations often play a large role in emergency operations (Waugh & Streib, 2006). Consequently, compilation of a response team that draws from various sectors interested in animal health and welfare is an essential task to undertake when planning for companion animals (UC DANR, 1999).

Public information. Communicating preparedness information to the general public is an essential function before and during a disaster, and may alleviate some of the strain on emergency responders as households plan for the care and evacuation of their pets (UC DANR, 1999). Perry and Lindell (2003) caution, however, that individuals are more likely to consult sources other than government for information in a disaster situation. Therefore, while it may be important for states to advise pet owners on steps to take during an emergency, it is at least equally important for local entities to accurately educate the public on matters of preparedness prior to disaster (Irvine, 2009).

Methods

Sampling Procedure

In order to ensure geographic diversity among the states studied, one state was randomly chosen from each of FEMA's ten planning regions (FEMA, 2010c). Random selection was accomplished using the list randomizer from the website random.org, which has been declared reliable by two independent studies (Haahr, 2010).

Document retrieval. Only publicly available documents were used for this analysis. Companion animal emergency planning

documents were downloaded from state governmental websites. In cases where a plan is not readily identifiable on the website, the researcher contacted the official State Veterinarian through electronic mail for information as to where the plan could be found.

Qualitative Coding

In order to identify similarities and differences among emergency plans for companion animals, a qualitative approach was taken to analyze content. An examination of state planning documents was conducted to compare each plan's components to a set of standard best practices as identified in the literature review. Specifically, each plan was analyzed to indicate the presence or absence of the following elements.

Data-driven. Plans were examined to determine if they are based on a methodology to calculate the number of household companion animals in the area.

Legislation. If a state has passed legislation relevant to companion animal planning, the plan was analyzed for compliance with the state's law.

Procedures and resources. Each plan was analyzed to determine the extent to which it incorporated planning for processes in addition to providing an inventory of accessible resources. A plan was considered stronger if it contained identifiable action steps and considered procurement and inventory of requisite resources. Plans were analyzed for inclusion of information regarding housing, transportation, equipment, and medical care for companion animals.

Clarity of authority. Plans were analyzed for the presence or absence of a designated lead agency for companion animals and the state agency in charge of government operations, which may sometimes be the same entity.

Collaboration. Plans were evaluated for the extent to which partners and their respective roles are identified. Strength of collaborative relationships is difficult to measure in a written document of intent; therefore, the presence or absence of collaborative relationships was documented for purposes of this analysis.

Public information. Each plan was examined to determine if provisions were made for release of information to the public. Particularly, the analysis indicated whether the plan detailed

an authority for informing the public about animal care before, during, and after an emergency. In addition, plans were analyzed for mention of preparedness information to aid households prior to an emergency.

Supplemental information. Any themes that emerged from the analysis that are not included in the descriptive elements above were identified and their relevance discussed.

Analysis and Reporting

After each plan was dissected for the characteristics above, a report was constructed detailing each component, examining its overall frequency and strength. Further discussion includes a description of how each element dovetails with the variables described in the literature review. The differences between plans for each characteristic were reviewed and explanations as to their specificity—or lack thereof—will be offered using several variables, including financial resources, population size, vulnerability to disasters, and the extent to which they are considered animal welfare-friendly. Best practices, as well as gaps in planning were utilized as a basis to provide recommendations regarding how future plans should be constructed and of what elements they should be composed. Emergency managers or other officials tasked with plan development and modification may use the resulting suggestions.

Results and Discussion

Nine of the ten states chosen for the analysis either had plans available publicly through their websites, or a planning official responded to the author's request for information. These nine states include Alabama (n.d.), Hawaii (2009), Illinois (n.d.), Iowa (2007), Louisiana (n.d.), New York (2010), Rhode Island (n.d.), Utah (2005), and Washington (2006). The tenth state chosen, Delaware, did not have planning documents publicly available, nor did emergency management officials respond to a request for information.

Elements of Emergency Plans

Overall, the states with the most detailed, most useful provisions included Illinois, Iowa, Louisiana, New York, and Rhode Island. The plan with the least detail was provided

by Utah, with the rest falling approximately in the middle of the spectrum. Discussions of each of the elements analyzed follows, with reflections on how emergency planners may wish to address these components.

Data availability. Only two of the nine states studied provided data figures as to the number of animals in the applicable jurisdiction. Furthermore, only one state based the actual planning number on the anticipated number of pets needing evacuation, though the methodology for approximating the figure was undefined.

Due to the aforementioned difficulty of calculating exactly how many pets will need assistance, a standard methodology such as that used by Edmonds and Cutter (2008) is necessary to arrive at a figure that can drive planning efforts. This method is not foolproof, due to local variations in pet ownership. A pet census or registry may assist with determining demand and location of shelters (Edmonds & Cutter, 2008; Leonard & Scammon, 2007; UC DANR, 1999). However, the costs and difficulty of collecting and maintaining registry data may outweigh the benefits of greater accuracy in estimating pet ownership figures. Planning officials should take this into account before implementing a registry that may prove unwieldy, or even inaccurate.

Legislation. Of the nine states studied, four have passed laws related to provisions for companion animals in emergency plans. While the majority of these laws were fairly vague, the Louisiana law required specificity with regard to shelter facilities and their operations; pets and owners evacuating together when possible; reunification policies; and public education regarding preparedness for pet owners. All plans technically displayed compliance with the federal PETS Act of 2006. The Act is fairly broad and does not specify a compendium of features that must be present in order for a state to fulfill the mandate or a requirement for separate state legislation. All states studied reflected compliance to their respective laws; however, this could reflect a lack of specificity rather than a robust planning process.

Clarity of authority. Six states' plans emphasized counties as the front-line responders in an emergency, stating that counties should plan as they see fit, and that the state's plan is to be activated in widespread emergencies or when local resources

are exhausted. Eight out of nine states identified the state agriculture agency as maintaining some or all authority in matters relating to companion animals, while Hawaii places authority solely with its department of civil defense. Other agencies with which state agriculture authorities share power in an emergency include the state emergency management agency (Rhode Island); department of public health (Iowa); and an interagency animal response team (Washington). The remaining states specify their respective agriculture departments as the sole lead agency in an emergency. Specifying authority in multi-state disasters may be better suited to general emergency planning documents rather than specific animal care annexes.

Public information. Seven of the states identified multiple agencies responsible for communicating with the public during an emergency, while one state identified a single entity and the other delegated responsibility solely to individual county Public Information Officers. State emergency management agencies were most frequently assigned at least partial responsibility for public communications, along with state departments of agriculture, while nonprofits were granted authority in just two states and the state department of health was utilized in just one state. UC DANR (1999) suggests appointing just one liaison; however, in situations involving both animals and humans, this may not be the most feasible approach. All states except one specified that their emergency management agencies would have at least a partial role in public release of information, as would be expected in any disaster situation. However, four state plans indicated that their departments of agriculture would also be involved. This suggests that animal-specific information is provided alongside general information, but by a different entity.

Six states' plans contained provisions or suggestions for providing the public with preparedness information for pets prior to an emergency. This information typically includes suggestions regarding evacuating with pets and recommendations for items to include in an emergency preparedness kit. Irvine (2009) recommends production and distribution of a brochure that includes a list of equipment necessary to care for pets in an emergency, as well as a directory of pet-friendly hotels or alternate housing. Furthermore, Irvine recommends incorporating the provision of this message via veterinary

offices during routine animal care, thus rendering veterinarians suppliers of information, rather than relying on pet owners to actively seek out the necessary information. However, some pet owners do not seek regular medical attention for their animals and will not receive the information via their veterinarian. Leonard and Scammon (2007) therefore suggest that public service announcements also be used to promote emergency readiness for animals. Heath, Beck, Kass, and Glickman (2001a) concur, recommending that such campaigns dovetail with general pet care awareness messages.

Collaboration. All state plans studied reflected the intertwined nature of public agencies in an emergency and assignment of roles and responsibilities to appropriate departments as necessary. In addition, all state plans enlisted help from local and national nonprofit organizations, or at least recommended doing so. The American Red Cross (ARC) was frequently called upon, as coordinating animal care with human care is essential. In addition, national animal welfare organizations such as the Humane Society of the United States (HSUS) and the American Society for the Prevention of Cruelty to Animals (ASPCA) were involved, mostly in housing and sheltering operations. Collaboration with nonprofits is essential to emergency response and recovery due to the mission-driven nature and community involvement inherent in these organizations.

Hawaii's and Louisiana's plans both mention contributions from other states. Louisiana refers to volunteers coming from North Carolina's and Connecticut's animal response teams, while Hawaii's Department of Commerce and Consumer Affairs is responsible for devising procedures for credentialing out-of-state veterinary personnel. The remaining states in this analysis did not account for volunteer teams from other jurisdictions, nor did they address credentialing procedures for out-of-state veterinary practitioners. Neglecting to authorize the practice of out-of-state veterinary personnel could become problematic in an emergency. Hudson et al. (2001) encountered difficulty while attempting to access additional veterinary services from out of state after Hurricane Floyd. The groups providing assistance to animals were not officially incorporated into North Carolina's emergency plan. The implication of this omission was that out-of-state veterinary personnel were not able to practice legally in North Carolina, which could have

been alleviated with a simple governor's order suspending licensure rules in emergency. It may, therefore, behoove states to develop a process—and detail that process, along with information regarding potential partners—to credential out-of-state veterinary professionals.

Four states' plans specifically mentioned memoranda of understanding or mutual aid agreements to solidify arrangements for aid in an emergency, while the remaining states failed to recommend these measures. These agreements are essential to ensure continuity of plan operations and response; additionally, they provide a measure of accountability and commitment on the part of participating agencies (Beaver, Gros, Bailey, & Lovern, 2006; UC DANR, 1999). States may wish to develop and implement a standard contract for assistance, at least with agencies that agree to provide critical services, such as pet sheltering and medical care.

Collaboration with the private sector, especially in crafting and executing preparedness plans, is more common than in the past. Private companies receive contracts from governmental entities to complete work such as improving structural integrity of buildings in areas vulnerable to earthquakes (Waugh & Streib, 2006). Public and nonprofit collaboration with private businesses may exist solely on a transactional basis (Austin, 2000). For example, the one-time contracting situation described by Waugh and Streib could be utilized to construct shelters or retrofit them to accommodate animal cages. In addition, pet supply retailers could partner with states to provide equipment. Despite the benefits of partnering with private industry, fewer than half of states studied mentioned partnerships with private organizations, mainly in terms of obtaining provisions.

Equipment, housing, transportation, and medical care. Only two states produced at least a partial inventory of supplies on hand. In the case of Louisiana, the list of supplies on hand was limited to the number of crates in various regions of the state. Arguably, this is one of the more important supplies of which to ensure availability, but other critical items, such as pet food and clean water, were not present.

Precisely which supplies are necessary to care for animals in a disaster may not be readily apparent. Four states provided lists of supplies that would be necessary for shelters to obtain

to adequately care for animals. All state plans except one specified the entity responsible for procurement of equipment. As Heath, Kass, Beck, and Glickman (2001b) point out, some pet owners may not have equipment suitable for evacuating their animals, such as carriers. This may prove to be a challenge in states such as Iowa and Louisiana, where animals are required to arrive at shelters with this equipment. Heath and colleagues recommend, therefore, that officials tasked with emergency operations equip themselves with cages, leashes, and other supplies to aid in catching and transporting animals to safe areas.

All states specified the entities in charge of providing and/or arranging housing for animals in an emergency evacuation. Responsible entities included state government agencies, such as Hawaii's State Civil Defense, and nonprofit organizations, such as the Utah Humane Society. While most plans did not specify exact sheltering locations, Rhode Island suggests that the Lincoln Greyhound Park racing track be used as an emergency site. In addition, some plans suggested generic facilities to be considered. For example, Iowa's plan suggests fairgrounds, kennels, and veterinary offices as potential housing areas for animals, while Illinois's plan suggests schools and parking ramps. Only four state plans went so far as to specify, or recommend, procedures to be used in housing animals. Local animal shelters or welfare organizations may have conflicting ideas as to how to most effectively house pets, thus fostering confusion at a time when consistency is crucial. Ideally, lead organizations will work with adjunct agencies to ensure uniformity of operations. However, as Perry and Lindell (2003) state, a prescribed plan will help to establish a reliable response. Therefore, emergency planners may wish to specify at least basic housing operations in order to standardize operations and alleviate uncertainty.

Eight out of nine states specified either agencies responsible or procedures to be undertaken for transport of companion animals. Transportation for animals in emergencies can be problematic, especially in urban areas where residents are less likely to own cars (Cutter & Emrich, 2006). Accessible transportation needs to be available, even if pets and owners must be separated for a short time. Assembling a fleet of vehicles to transport companion animals for special needs populations—

such as the elderly, infirm, or indigent—will help to evacuate pets.

Access to medical care for animals is important in shelter situations, for several reasons. First, dogs in the first few days of shelter residence have demonstrated high levels of cortisol, a hormone that is more pronounced under situations of stress (Hennessy, Davis, Williams, Mellott, & Douglas, 1997). Veterinary staff may administer medications to calm animals suffering severe stress or separation anxiety. In addition, Iowa's plan states that animals who are not current on their rabies vaccines must receive one from veterinary staff prior to entering a shelter. Parasites such as fleas and ticks may spread from animal to animal in a mass housing situation, in which case veterinary staff should be present to diagnose as necessary and apply treatment. Finally, having veterinary care on hand in case an animal falls ill or becomes injured during the course of housing should be standard procedure. All state plans specified entities responsible for coordination of medical care.

Supplemental Information. Seven states addressed the importance of procedures for reuniting pet owners with their pets during the recovery phase of emergency operations. Some plans included suggestions for incorporating these processes, such as photographing pets with their owners or assigning matching barcode wristbands and collars, into sheltering operations. Others simply stated that those responsible for housing should develop such procedures in the manner most feasible. In addition, six states accounted for procedures to address the needs of unclaimed animals or those who could not be reunited with their owners, generally assigning the task to the authority responsible for housing, or specifying that such animals would be turned over to shelters for care. Beaver and colleagues (2006) state that though rescuing is important, reuniting pets with their owners is equally important, and suggest that sheltering authorities use such technologies as digital photography and microchip implantation to assist with the task. Whichever methodology is utilized, plans should specify reunification procedures in order to avoid liability and reduce anxiety among pet owners. Inevitably, some animals will be unclaimed, however. Beaver and colleagues (2006) state the importance of processes to care for abandoned animals, recommending that state laws should be uniform with respect

to the definition of “abandoned” and allow leeway in emergency situations.

Five states recommended tracking of costs in emergencies, with some advocating appointment of a financial manager for the duration of disaster operations. Presumably, this information is helpful for state accounting purposes. However, demonstrable financial data may also be useful for procuring federal funding. The PETS Act of 2006 allows states to apply for funding for animal emergency preparedness purposes, which includes construction or renovation to existing shelters. These data may also be used to support grant requests for animal emergency preparedness from large animal welfare groups such as the HSUS.

Accounting for Variability

Despite slight correlations, comparison among the most prepared and least prepared states suggests that the following factors actually have little to do with a state’s overall readiness in relation to companion animals. For purposes of analysis, states with plans adhering to the highest number of model characteristics are classified as “most prepared” and the state with the plan containing the lowest number of model characteristics is referred to as “least prepared.” States with plans that fall between the two extremes will be categorized as “semi-prepared.” Financial resources were determined by each state’s allocation for emergency planning, reported on a per capita basis, for the year 2007, while size was determined by July 1, 2007 Census population estimates (USCB, 2007), and levels of vulnerability to disasters were indexed by data from FEMA (2010a) that indicate the number of disasters from 1953 through 2010. Animal welfare-friendliness was gauged using the Humane State Ranking generated by the HSUS. The Humane State Ranking counts the number of “strong” animal welfare laws in each state, drawn from a reference list of 65 ideal domains of animal protection (HSUS, 2010c).

Financial resources. Perry and Lindell (2003) contend that disparity in the amount of resources a region devotes to emergency preparedness is a stark reality. It may be a logical conclusion, then, that states with fewer monetary resources devoted to planning may in turn produce leaner plans. This analysis produced mixed results with regard to the states studied and

their emergency management budgets. The second lowest budget for emergency management—Utah, at 30 cents per person—did correlate with the least prepared state, overall. The state with the highest budget for emergency management—Illinois, at \$2.72 per person—was identified as one of the most effective plans. However, the state with the lowest per capita amount devoted to emergency management, just 28 cents per person in 2007, was New York, which was also identified as having one of the strongest plans. Some of the discrepancies related to financial resources may be due to the fact that the budget figures included only state budget allocations, not federal or other financial assistance (National Emergency Management Association, 2008). These results may suggest that states are using their emergency management budget for priorities other than planning, or that within the planning budget, animals are not as high a priority as other factors.

Size. Perry and Lindell (2003) offer that larger states may have more formalized plans in place, while smaller states rely on more informal agreements and relationships. The two states with the highest population do indeed correspond to two of the most effectual animal emergency plans among those studied; the state with the lowest population also falls at the high end of the spectrum with regard to preparedness. Utah, the least prepared state in this analysis, is near the top of the less populous states as well. However, Louisiana and Iowa, two of the most prepared states, are much more sparsely populated than their other well-prepared counterparts. A small correlation exists with size, agreeing only slightly with Perry and Lindell's (2003) assertion that larger states tend to be more formalized. Perry and Lindell's theory may therefore apply more to counties than to states.

Vulnerability to disasters. States that are more vulnerable to disasters may be less likely to have formalized plans in place. This is because they are more accustomed to dealing with disasters, and may therefore view planning as unnecessary. Perry and Lindell's (2003) hypothesis of states having less formalized plans the more vulnerable they are to disasters does not appear to correlate with the states analyzed. Illinois, Louisiana, and New York—three of the most complete plans for the purposes of this study—are listed at or near the top of

the number of disasters in the past 57 years. Utah is second only to Rhode Island in terms of fewest disasters, and they correspond with the least and most prepared states, respectively. The third and fourth states in order of number of disasters, Hawaii and Washington, fared average in the analysis of preparedness. This theory, while sensible in the aspect of intimate knowledge of one's procedures in an emergency, fails to account for liability concerns. In addition, failure to plan could defy the expectations of citizens, who may believe that the government in a susceptible area would be remiss, should they fail to plan for what is a fairly known quantity.

Animal friendliness. The HSUS (2010a, 2010b) released its Humane State Ranking in February 2010. The Humane State Ranking assigns each state a rank in terms of animal-related legislation, looking at laws spanning pets—including emergency preparedness—and animal cruelty, along with provisions for wildlife, research animals, and farm animals. Attempting to associate plan effectiveness with this variable produces a moderate correlation. Illinois and New York, two of the most prepared states with regard to companion animals, place near the top of the Humane State Ranking, and in fact, tie with each other. Only Washington, a semi-prepared state in this analysis, breaks the pattern of most prepared states placing at the top of the list. Utah—the least prepared state in this analysis—places near the bottom of the list with respect to animal friendliness. This correlation may suggest that animals and their welfare are a higher priority among better-prepared states, and thus their plans tend to reflect this precedence.

Recommendations and Conclusion

Recommendations

Several attributes of state emergency plans for companion animals appeared universally or nearly so among all nine states, and therefore produced little or no gap in this analysis. Provisions for medical care and assignment of an entity to arrange housing were present in all plans. In addition, designation of agencies to communicate with the public was common to all plans, though no plans specified how agencies would coordinate for uniformity of message. All states delegate a lead

agency; however, in the three states that do not assign responsibility specifically to counties, local authority is not specifically granted. In addition, all states enumerated collaborative relationships between government and nonprofit organizations, though only four specified connections with private industry, and only four mentioned formalized agreements. Most states—eight in both cases—specified entities or procedures associated with obtainment of supplies and transportation.

Some deficiencies in planning become more evident, however, in other aspects studied. Six states specified that information regarding pet preparedness will be released to the public in order to encourage readiness prior to an emergency situation. Four states specified procedures to be utilized at emergency shelters, and four states also provided a list of supplies necessary to carry out sheltering operations. Only two states specified equipment inventory on hand at the time of the plan's composition, and only two states made mention of the number of animals that may need assistance, both of which should be present in order to drive planning efforts. These deficiencies, along with suggestions regarding how to remedy them, are elaborated upon below.

In order to compose the most efficient and orderly plan for animals in an emergency, plans should first and foremost be data-driven. The estimation procedure used by Edmonds and Cutter (2008)—using data from the AVMA and a multiplier of pets left behind—can provide a basic snapshot of how many households may need assistance. Pet ownership censuses may be more accurate for local purposes than even the best estimates produced by the AVMA, but their implementation may not be feasible, or data may be difficult to gather. Either method will provide emergency planners with better information on which to base operations. One additional recommendation is to identify the most likely disasters and their potential effects in order to plan for contingencies. Alabama is the only state in this analysis that includes this in their plan. The Alabama Department of Agriculture and Industries maintains a list of key areas where emergencies are more likely to strike, providing justification for focusing resources on these areas specifically. Specifying the disasters most likely to affect an area will aid in identifying problems that may surface—including those brought about by human behavior—and devising potential

solutions. In addition, the average duration of area disasters may help to calculate necessary resources and personnel (Perry & Lindell, 2003; UC DANR, 1999).

While such an undertaking may be time-consuming, inventorying a state's animal care equipment should also drive planning efforts so that gaps may be addressed. A recommended list of supplies can help to prepare individual shelters for animal needs, ensuring that they are not without essential equipment at a time when it may be unavailable through conventional means. Furthermore, specifying a set of basic operating principles will preserve uniformity among all participating shelters, which dispels uncertainty or disagreement in times of potential confusion, as well as in situations where animals must transfer between shelters. Ideally, designation of a lead agency would alleviate confusion. However, cementing operating procedures into a written emergency plan prior to implementation would dispel any doubt.

Multiple avenues of providing information to the public in an emergency situation should be expected, as agencies caring for humans and those caring for animals may be different entities. State plans should indicate, however, how these entities would coordinate with one another for unity of message. Prior to an emergency, it is essential that pet owners receive important information, such as how to prepare their pets, what to include in an emergency kit, and the locations of shelters, transportation, and pet-friendly hotels. Including veterinarians in the process, as well as releasing general public service announcements coupled with general pet care campaigns, will help to ensure that pet owners receive the message.

Emergency managers should also ensure that plans specifically grant local authority, encouraging continuity of response and county preparedness efforts. States that do not explicitly grant authority to local entities, though they may be mentioned elsewhere in the plans, should formally recognize the powers and duties of local officials, especially regarding equipment and housing resources that may be dependent on community businesses such as veterinarian offices, pet supply retailers, and shelters.

These community businesses can form the basis of a robust network of animal care organizations. Public and private entities alike should be enlisted to take part in caring for

animals in an emergency. Public entities offer resources, command structures, and formalized planning efforts, while nonprofit animal care organizations offer specialized expertise, equipment, and positive identification with local communities. While most states specified relationships between public and nonprofit entities, private businesses should not be overlooked as potential partners in arranging emergency animal care, as they can provide necessary supplies and serve as a conduit for information for public preparedness. In addition, as governments at all levels continue to pursue public-private partnerships in an endeavor to increase efficiency and effectiveness, private companies may provide services important to accommodating the needs of animals. All partnerships established by state planning documents should be cemented by a written agreement, such as a memorandum of understanding, a mutual aid agreement, or a contract. An example of this type of agreement is when a state plans to seek aid from other states as part of its preparedness efforts. In this instance, a credentialing procedure should be established for emergency situations to allow veterinary professionals from other states to practice across state lines. This eventuality is only discussed in Hawaii's plan.

Limitations

While this study ideally aims for universal value, there are several limitations that hinder its widespread applicability. First and foremost, this study took place over a period of ten weeks, which limited the feasibility of studying more states in order to gain a more complete sample size. In addition, time and space constraints precluded studying state emergency plans in their entirety, which may have provided better context for understanding the companion animal portions of the plan. Other areas of emergency plans, such as the human mass care section, may address some animal sheltering needs.

Another limit of this study is its inherent subjectivity. The qualitative nature of this analysis as performed by only one author precludes tests of reliability. The data in this study are difficult to quantify, and the tests for correlation among the variables are based on the author's judgment, not a statistical measure of significance. This study should therefore be considered observational and utilized as supportive, not

conclusive, evidence. Finally, the data collected were accurate as of late 2010, and may have changed in the interim.

Conclusion

The nine states studied in this analysis provide a snapshot of how the nation prepares for companion animals in emergency situations. Though mandated by law, companion animal emergency planning varies quite widely among states, with some producing mature, complex plans and others producing very rudimentary plans, or no plans at all. Though most of the elements that comprise an ideal emergency plan were present in the majority of the plans, some gaps in planning became evident and could become problematic during an emergency situation. Planners should utilize the recommendations detailed above to present a more unified, all-inclusive plan in order to reduce the number of evacuation failures. This will in turn lighten the burden on the economy, public health, and public safety, while reducing animal suffering and the emotional toll on pet owners faced with the decision to leave their animals or stay in a dangerous situation. As the State of New York (2010) concludes, "It is clear through analysis of these local and national disasters that planning for animal welfare is planning for human welfare."

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"Leads" to Expanded Social Networks, Increased Civic Engagement and Divisions Within a Community: The Role of Dogs

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Dogs play a distinct role in their impact on human relationships and processes because of the unique role they play in American society, existing in a liminal space of "almost" human. Both the level of emotional attachment and the requisite daily care make dogs important players in bringing humans in contact with one another and mediating human relationships. This study examines the role that dogs play in mediating relationships between and among humans. By analyzing 24 in-depth interviews, as well as Letters to the Editor, editorials, and other items in a local newspaper, and observing public meetings around dog usage at a local park, I identify a range of ways that dogs influence social relationships and processes, even for those who do not have dogs in their homes. On the positive side, I find that dogs act as "tickets" for people to socialize and develop relationships, they facilitate the diversification of social networks, and they act as an avenue to political participation. On the negative side, dog ownership and dog breeds can become the basis for clique formation, stereotypes, and boundary formation, serving as grounds for exclusion.

Key words: dogs, political participation, socialization, cliques, park usage, social capital

Dogs act as companions, protectors, guides, and members of the family. Companion animals, generally, facilitate the emotional and physical well-being of their human companions (Allen, Blascovich & Mendes, 2002; Fox, 2006; Power, 2008; Risley-Curtiss, Holley & Wolf, 2006b; Risley-Curtiss et al., 2006a).

But dogs play other powerful roles in the public realm, even for those who are not dog owners (McNicholas & Collis,

2000; Wood, Giles-Corti, Bulsara, & Bosch, 2007). Humans and animals have long existed together in social networks, even when they do not appear to have an immediate connection (Philo & Wilbert, 2000).

At the most basic level, dogs tend to increase the quantity of human interactions (McNicholas & Collis, 2000; Wood, Giles-Corti, & Bulsara, 2005; Wood et al., 2007). At times, these increased interactions are positive for both the individual and the larger community, via increased social and civic engagement and the growth of social capital, but they can also have negative consequences (Toohey & Rock, 2011). Dogs can serve as “markers” and “dividers” in our culture, both for dog owners and non-owners. Dogs, and more specifically certain breeds of dogs, represent life styles and personality traits to the outside world (Drew, 2012; MacIness, 2003; Tissot, 2011). Through a mixed-methods approach utilizing in-depth interviews, content analysis of newspaper items, and participant observations, this study explored how dogs directly and indirectly mediated human relationships in an upper-middle class suburban community.

Previous Research

Placing Humans within Animal Studies

The field of animal geography has, in recent years, grown substantially. Two significant compendiums over the past fifteen years have brought together scholarship that has examined a number of new issues in regards to human–non-human interactions—exploring issues of animal agency, the placement of animals within and across societies, and the existence of animals on a continuum rather than a binary “human–non-human” mode (Philo & Wilbert, 2000; Wolch & Emel, 1998). Animals, often at the heart of public policies and economic endeavors, have only recently been understood in this way (see e.g., Brownlow, 2000; Woods, Philo, & Wilbert, 2000).

Scholars in the field of animal geography have called for additional lines of research to better understand how animals shape the urban landscape in the form of multi-use parks, dog runs and zoos, how they facilitate contact between people, and how they shape the political discourse (Emel, Wilbert &

Wolch, 2002; Jones, 2000; Wolch, 2002; Wolch, Brownlow & Lassiter, 2000). These studies, although certainly pushing for a broader agenda, are empirically limited. They are theoretically, rather than empirically driven, applying little data to their questions. They also tend to focus on human-animal relationships, as opposed to focusing on animals as *mediators* of human relationships.

Animal research that has explored the role of animals in shaping certain human processes, such as the political discourse, has tended to focus on political initiatives that are abstract and intellectual in nature (Brownlow, 2000; Woods et al., 2000). For example, people walk for greyhounds or boycott the tuna industry. These illustrations are very different from the human-animal companion relationships that may lead to *local* civic and political engagement. The purpose of this study is to examine the implicit and explicit roles that dogs play in dog-initiated political, civic, and social activities within a neighborhood.

Placing Animals within Human Studies

In recent years, the fields of medicine, sociology, psychology, social work, and social welfare have begun to examine the critical role that companion animals play in the lives of their humans. Studies have examined how humans come to understand their animals and the relationships they have with them (Fox, 2006; Risley-Curtiss et al., 2006a, 2006b), how humans fit dogs into their lives and homes (Power, 2008), and how they control their dogs outside of the home (Laurier, Maze & Lundin, 2006). Dogs are described as "companions," "pack animals," "children," and "family" (Fox, 2006; Power, 2008; Risley-Curtiss et al., 2006a).

Research has also explored the impact of dogs on the physical and emotional health of humans. Animal companionship is overwhelmingly identified with positive mental-health (Allen et al., 2002; Risley-Curtiss et al., 2006a, 2006b) and physical outcomes for humans (Cutt, Knuiman, & Giles-Corti, 2008; Toohey & Rock, 2011; Wells, 2009). Cross-national longitudinal research in Germany and Australia has similarly found physical and mental health benefits for those with animal companions (Headey & Grabka, 2007).

Certain sub-sets of the population may particularly benefit from having an animal companion. Single people versus those who are married, as well as women versus men, appear to gain greater psychological benefit from dog ownership (Cline, 2010). Additionally, dogs may be particularly beneficial to the elderly population (Scheibeck, Pallauf, Stellwag, & Seeberger, 2011).

The Human/Non-Human/Human Connection

One area of recent research has revealed the impact that animal companions, most often dogs, have on the relationships between owners and non-owners and on the community at large. A large scale study conducted in three Australian suburbs found that dogs appeared to have myriad positive effects on the communities in which they resided (Wood et al., 2005, 2007). They encouraged social interactions between owners and non-owners, expanding social networks. Dogs are also associated with the building of social capital, generally defined as the web of relationships and the feelings of reciprocity that bind individuals and communities together (Putnam, 2000), as well as with increased civic engagement.

The findings that dogs are associated with the growth of social networks and social capital are particularly important. The influence of social networks on the individual has been well established in recent decades, with research strongly suggesting that our networks influence everything from our access to jobs to our level of happiness to our overall health (Christakis, 2009; Granovetter, 1973; Putnam, 2000). These individual social networks feed into the level of social capital that exists for both the individual and the larger community, as social capital flows through these networks (Lin, 2005). Higher levels of social capital within a community are associated with everything from higher levels of civility and political engagement to better overall health outcomes and lower rates of crime (Bruhn, 2005; Putnam, 2000).

However, a meta-analysis reveals that the effect of dogs on non-owners varies significantly by context and sub-group (Toohey & Rock, 2011). Within socially cohesive, higher income neighborhoods, both owners and non-owners experience increased physical activity, social interaction, levels of reciprocity, and social capital. The effects are not so consistently

positive in less affluent neighborhoods, with women, ethnic minorities, and the elderly negatively impacted by dogs. These sub-groups may be less likely to venture out due to the presence of dogs in the neighborhood (e.g., due to fear of the dogs), thereby limiting their ability to exercise, socialize, and build their own social networks and levels of social capital (Toohey & Rock, 2011).

Recent studies exploring the role that dogs play in urban gentrification in the U.S. find that dogs unintentionally create and maintain social, racial, and class divisions (Drew, 2012; Tissot, 2011). These mixed results beg the question of the role that dogs play in mediating social relationships in a White, upper-middle class suburb where there *appears* to be less active boundary making. What role do dogs play in influencing social processes, such as group formation and political activity? Do they increase civic engagement and social capital, or do they unwittingly create divisions and feelings of mistrust? Finally, what allows dogs to play this important role?

Methods

The Context

This study grew out of a controversy over the uses of an approximately five acre mixed-use park in a predominantly White, upper-middle class suburb outside of a large city in Massachusetts. As a community member living in close proximity to the park, I received correspondence from the 'Committee' overseeing developments at the park, including a ban on dogs running off leash in October, 2008. I attended the first public meeting in December 2008 as an interested neighbor. However, my interest quickly became sociological in nature, as more than 50 individuals appeared on a snowy weekday night to air their grievances regarding the ban. Both the large turnout and the hostility between those who supported the ban and those who did not piqued my interest as a student of civic engagement.

The park at the center of the controversy includes a playground, a field used for both soccer and lacrosse practices and games, a baseball diamond, and a small basketball court. A paved walking path follows the perimeter. The park can be reached on foot via several walking paths. One road dead ends

into the park and provides about one dozen parking spaces. In mid-October, 2008, the Committee banned dogs from running off-leash at the park. Reportedly the Committee was responding to a growing number of complaints lodged by close neighbors of the park, parents of small children, and sports coaches, each who held a different set of complaints in regards to the dogs and their owners.

Within days of the ban, letters to the editor and guest columns appeared in the local newspaper, protesting the leash decision by the Committee. A group calling itself M-WOOF emerged, requesting repeal of the leash law. This off-leash group had three clear leaders and several dozen participants. They began to meet regularly, write additional letters to the editor, and strategize about how best to respond to the Committee decision. It was at the December meeting that more than fifty residents from both sides came together to discuss the dog leash issue.

A compromise program, developed over the course of multiple meetings in December, January, and February, was piloted in late winter 2009. The pilot program included: limited off-leash hours in the mornings and evenings with the schedule varying by season; a limit of eight dogs off-leash at any one time during the off-leash hours; a limit of two dogs per person; a requirement that all dogs be under voice control at all times; a residency requirement for all dog owners who have their dogs off-leash; and a strict ban on dogs in the playground (minutes from February, 2009 public meeting of the Committee). Fines of up to \$200 could be levied for the failure to meet any of these requirements. As of summer 2012, this program remained in place.

The Sample

The bulk of the data for this study come from 24 in-depth interviews with residents of the town who were involved in the discussions over the park. The interviews took place from January 2009, immediately after I had been granted approval from the Institutional Review Board. I was able to gain access to those involved in the debate as a known member of the community who did not take a position on the issue. Names of participants and their dogs, as well as location and groups, have been changed to protect confidentiality.

The sample of 24 participants grew out of a hybrid approach, combining a purposive or judgment sample with a snowball sample. I began by contacting those I knew were involved in the off-leash group through their very public positions in the newspaper and at public hearings. I used email, telephone and face-to-face contact to make the initial request. At the end of each interview, I asked them to supply names of others in the off-leash group who they thought would speak with me. In total, I contacted nineteen members of the group; sixteen agreed to be interviewed, including two of the leaders. Thus sixteen individuals make up the off-leash sample. They are all dog owners.

I contacted the on-leash people who had been involved in passing and maintaining the leash requirement through similar means—face-to-face conversations, email, and telephone—and asked if they would be willing to speak with me about their involvement in the park debate. I first approached the most public members of the group and then asked for referrals. There were fewer active on-leash individuals; they tended to be less organized and more nervous about speaking with me than the off-leash group. As a result, the on-leash sample is smaller. Of the eight on-leash respondents, three had dogs and one had a cat at the time of the interview. An additional member of the sample has since brought a dog into his home.

The question of sample size often comes up in qualitative research, with the concern of not having interviewed enough people or having stayed out in the field for long enough to fully understand the dynamics or identify the trends. Although there is no "magic" number in terms of sample size, qualitative work relies on the notion of "redundancy" and the identification of trends in interview data (Ely, Anzul, Friedman, Garner, & McCormack Steinmetz, 1997). Such was the case in this sample where I began to see clear repetition within the interviews among both off-leash and on-leash participants.

Interviews

The interviews relied upon a structured questionnaire. Respondents on both sides of the issue were asked the same core questions, including "Why did you become involved in the park discussion?" "In what ways did you participate in

the public debates?" "What does the park mean to you?" Each interview lasted approximately one hour and was audio recorded with the written consent of the subjects. I conducted interviews in a range of settings, from the homes of the participants to the library to the local coffee shops in town, largely at the discretion of the subjects. A research assistant transcribed the interviews verbatim into Microsoft Word.

Documents

I supplemented the 24 in-depth interviews with additional documents. These documents include 17 Letters to the Editor, three guest columns, two editorials, and five articles, all appearing in the local newspaper and spanning the period from April 26, 2006 through June 2, 2011. I examined all items in the local newspaper that discussed the park issue as it related to the dogs, regardless of whether the article explicitly fit within an identified theme. I also reviewed minutes from public meetings on the topic and attended a series of public meetings throughout 2008 and 2009. The additional sources allow for a triangulation of data (Yin, 1994). Due to confidentiality concerns, titles of newspaper items are not included, but can be accessed from the author.

Analysis

I took a grounded theory approach to analyzing the data, first looking to the data and then tying the trends to larger theories when applicable. In this framework, one begins "in the data," and attempts to set it within a larger sociological framework to make sense of the data one has collected (Lofland & Lofland, 1995). The approach is inductive, rather than deductive.

In order to assure objectivity, my research assistant and I independently coded a random sample of the interviews to look for themes in the data. After we had each independently coded the same six randomly sampled interviews, we met to discuss the themes we had identified. Although we had slightly different terms for some of the themes, we found significant overlap in our respective codes. One could consider these the initial codes (Lofland & Lofland, 1995).

Table 1. Descriptives of Sample, N=24

Pseudonym & Gender	Age Range	Distance from Park	Length of Residency	Dog Owner	Occupation
<i>Off-Leash Sample</i>					
Alice (F)	30-39	<1/2 mile	10+ years	Yes	Teacher
Annette (F)	40-49	2+ miles	1-3 years	Yes	Store owner
Lucy (F)	50-64	<1/2 mile	10+ years	Yes	Nurse
Susan (F)	40-49	1-2 miles	10+ years	Yes	Project Manager
Michael (F)	50-64	1/2-1 mile	10+ years	Yes	VP, Telecom
Louise (F)	50-64	2+ miles	10+ years	Yes	Consultant
David (F)	50-64	1-2 miles	10+ years	Yes	Graphic Designer
Kate (F)	65+	<1/2 mile	10+ years	Yes	NA
Rose (F)	50-64	1/2-1 mile	4-7 years	Yes	NA
Jean (F)	50-64	<1/2 mile	10+ years	Yes	IT director
Sally (F)	50-64	<1/2 mile	10+ years	Yes	Development
Barbara (F)	65+	<1/2 mile	10+ years	Yes	Psychologist
Jill (F)	50-64	<1/2 mile	10+ years	Yes	Community Health
Terry (F)	50-64	1-2 miles	10+ years	Yes	Sales
John (M)	50-64	<1/2 mile	10+ years	Yes	Doctor
Sam (M)	50-64	1/2-1 mile	10+ years	Yes	CEO
<i>On-Leash Sample</i>					
Paul (M)	65+	<1/2 mile	10+ years	No	Part Time Accountant/ Retired Insurance Exec.
Connie (F)	65+	<1/2 mile	10+ years	No	NA
Brian (M)	40-49	<1/2 mile	8-9 years	No	Professor
Maggie (F)	30-39	<1/2 mile	10+ years	No	Professor
Nancy (F)	50-64	<1/2 mile	10+ years	Yes	Part Time Accountant
Marilyn (F)	50-64	<1/2 mile	10+ years	Yes	Realtor
Gideon (M)	30-39	<1/2 mile	4-7 years	No	Financial Advisor
George (M)	50-64	<1/2 mile	10+ years	Yes	Financial Advisor

I then returned to the interviews and through an iterative process, focused the codes to a greater extent, with more formal or "focused" groups developing (Lofland & Lofland,

1995). I coded the data using the software OpenCode. I used the same coding categories to code the newspaper items and minutes from the public meetings.

Results

Sample

The overall sample is White and heavily female. The residents range from being middle class to upper-middle class. The off-leash sample includes more women and more people who are unmarried. Table 1 highlights key participant demographic information.

Forming Human Connections and Building Social Capital

Interestingly, the most common theme that emerged from the data was the importance of the park in terms of human connections, in keeping with earlier research (McNicholas & Collis, 2000; Toohey & Rock, 2011; Wood et al., 2005, 2007).

One of the great fears in American society today is the decline in human interactions among people, resulting from overly busy lives, long commutes, two parents in the workforce, and the increased use of technology (Putnam, 2000). The lack of basic contact translates into an inability to form real and meaningful relationships, and an inability to create social networks. The decline in such connections has negative implications at the individual level, where lower levels of social capital translate into fewer opportunities, less knowledge, and less overall life satisfaction. The decline in individual connections eventually impacts the larger community, where we see lower levels of civic engagement, lessening feelings of communal responsibility, and a greater fragmenting of society.

Putnam (2000) describes two different types of social capital which exist. "Bonding social capital" reinforces relationships and feelings of reciprocity among similarly situated individuals, whereas "bridging social capital" brings people together who would normally be found in different spheres due to life cycle or circumstance. The data collected suggest evidence of both types of social capital building as a result of both the dogs and the dog controversy, but with the increased social capital primarily accruing to the off-leash proponents. These findings

on the building of social capital and the unequal accrual of it are in keeping with prior research (McNicholas & Collis, 2000; Toohey & Rock, 2011; Wood et al., 2005, 2007). Women, and in particular, unmarried women seem to disproportionately rely on their dogs for forming these relationships, a trend identified in Cline's (2010) work.

The theme of dogs as social connectors was particularly common and strong among off-leash participants, with 12 out of 16 off-leash participants discussing the importance of the park in terms of human contact. In the course of many interviews, individuals thought back to their initial encounters at the park and in these cases, the dog's role as the initial "ticket" to social relationships became clear. Alice, a married woman in her thirties who was involved in the off-leash movement, discussed her early experience at the park. She said:

When we started going with Spot there was already a pretty tight knit group of people who were there, seemingly always at the same time with the same group of dogs ... to me, it was like having a new baby in the playground. They would kind of start to welcome you in and you were sort of accepted and they found out her name before they found out your name.

Susan, an off-leash participant, talked about getting her dog. She said she felt that she had finally "joined the club and the club had ended," referring to her disappointment that the park had restrictions in place that made human socializing more difficult. She was able to develop some relationships through her park usage with her dog and talked about the way the park connected her to other town residents. Jill, an active off-leash group member, recalled becoming reacquainted with an old friend at the park. "All of a sudden I saw her. I hadn't seen her in probably fifteen years. I saw her and said 'Oh, Patty! I haven't seen you in fifteen years.' She had a dog. I had a dog and we connected."

Although a seeming contradiction, the role of the dog in mediating the human interactions is barely touched upon or even implicit among many of the off-leash proponents. Ironically, the dog appears as a peripheral actor once initial

contact has been made. Annette, a local shopkeeper, said simply, her dog “needed his exercise, but truthfully that was secondary. The primary point was to socialize. I’m at work and you know, it would give a little infusion into my day.” Three other members of the off-leash group made similar comments. David, an off-leash supporter, looked at the issue a bit more seriously, coming close to using the language of academics. He stated:

The social networking issue is, I think, a serious one. I think it’s become a primary means of socialization for humans, not just for the dogs. I’ve heard a number of dog owners say the same thing. These are particularly folks who are in retirement and people who might have a physical disability, no matter how minor...I think it’s a very important social issue to some people. It’s somewhat to me because I am out of work, but to me, it was a nice way to touch base with people.

Six off-leash group members cited instances of social groups developing out of the park, suggesting the dogs encouraged the development of closer social ties and community building. Annette talked about a group of park goers going to see a play in which another park-goer’s daughter had a role. David and Sally discussed walking with the “regulars” at the park every morning. Rose talked about a Thursday afternoon cocktail party that would take place each week. Jill discussed a group of four women who would go out for lunch once a month. Jean was particularly devastated by the on-leash requirements and resultant change in the culture of the park. She discussed a holiday on which a number of single women went out for dinner. In one letter to the editor, a woman described the “extraordinary sense of community” at the park (Letter to the Editor, January 28th, 2010).

Interestingly, two members of the off-leash group cited greater connections as a result of the park controversy. They both discussed feeling less a part of the community prior to the debates. Alice said “It is interesting because we keep to ourselves pretty much and made friends through this whole dog thing.” Barbara, a longtime resident, said in reference to

the park controversy, "It's been a good thing. I think it's been an interesting community effort. I've been surprised. It's one thing that has made me feel a part of the neighborhood and a part of the town."

For a handful of off-leash people, the relationships became significant. Six people discussed their park relationships in very meaningful ways, sometimes giving examples of critical outcomes. Annette, when asked about her relationship to the park, responded "And if you ever needed help on any level, you felt like you had friends there. So, it's not going to happen at McDonald's that you find those delights." Michael, Sally, and Jill used the term "family" to describe the nature of the relationships that formed at the park, evidence of growing social networks and feelings of reciprocity, the key ingredients of social capital. Michael, a retiree who frequented the park, but stopped going because of the fighting, stated:

There was a woman who had a few surgeries and while we were there people would go visit to make sure she was alright. Again, people cared about one another...People would be concerned about each other if someone didn't show up. There were some people [who] would look for them and if they didn't show up people would check on them to make sure they were alright because they're normally there. It became sort of an extended family kind of thing.

This type of "checking in" on one another was similarly observed by Wood et al. (2007) in their study of dogs and dog ownership in the Australian suburbs.

The interviews with off-leash supporters also revealed significant evidence of bridging social capital, with multiple people talking about the expansion and increasing diversity of their social networks as a result of park usage. This is in keeping with prior research on the impact of human interactions resulting from dogs (McNicholas & Collis, 2000; Wood et al., 2005, 2007).

Individuals in support of the off-leash policy talked about meeting people of different ages, marital statuses, religions, political opinions, and professions. One prescient letter to the

editor (April 3rd, 2008), written before the leash rules were put into effect, stated that it was a place where people of all ages and types could socialize. Another letter to the editor (November 13th, 2008) stated "it's been one of the greatest joys of [Mayfair]." This person goes on to discuss the celebrations around the births of babies, new puppies, and good friends. A guest columnist wrote "there are wonderful experiences that occur every day at the park" (November 13th, 2008). She went on to say, "I've seen children learn to ride bikes—first on training wheels, and then without them at the park. Strangers become acquaintances and sometimes close friends there." Lucy, a member of the off-leash group, stated:

It's just the people you never knew existed that lived one street over. And I think another part that I think anybody knows if you go up there with a dog is that you meet the young people that you certainly have nothing else in common with. You hear about what's going on in the schools and what the issues are...it just brings people together who would otherwise never know each other.

Louise, another woman in the off-leash group, stated:

I know old ladies and I know people with babies and I know professors from the ... College and the guys who run the DPW trucks. I don't have a good chance to meet people and hang out with them socially who are like that and it was a very good thing.

Alice, another member of the off-leash group, made a similar comment about the diversity of her network. Michael, a leader of the off-leash group, reiterated this feeling by saying "I found it really interesting because it's such a cross section of people there." Jean, an off-leash group participant, made a point of saying "But that's the thing, most of my experiences were not with dog people. They were just so nice and involved and chatty."

Discussions of socialization and contact came up among on-leash participants, as well, with 4 of 8 on-leash participants discussing this theme. Brian, who lives close to the park and

worked in favor of the on-leash requirements, compared the role of dogs and children in the community. He felt that both act as a basis for socialization and "camaraderie." Paul, Nancy, and George, all on-leash supporters, similarly saw the role that dogs play in connecting people.

Among the on-leash supporters, the discussion of dogs as social connectors was much more theoretical in nature, rather than a result of their own experiences. George stated "I feel that society, if there's a link or common denominator like a dog, people will go from rude to human being in two seconds." Nancy's discussion of dogs as connectors is related to how important the dogs were to the people on the other side of the issue. She said:

I think there are a large number of people who lost something that was very meaningful to them. This offered a social gathering to get together and talk about this issue they had in common. That was key. Really, there are so many spaces, but at [the Park], you could show up and just know that there were going to be people to walk and talk with. It was really important to people. Friendships [were] forged in the park and when it was taken away, feelings were hurt. In their eyes, it was through no fault of their own.

There was very limited evidence of the on-leash participants gaining in bonding social capital. However, one man involved in the on-leash push said of his involvement, "I've developed stronger relationships with my neighbors. We came together as a unified group with a common message." He goes on to say that he feels like he could go to them now if he had a problem and needed help, suggesting some evidence of bonding social capital among the on-leash faction.

Those involved in the on-leash side of the debate did not appear to develop bridging social capital. Maggie, a member of the on-leash constituency, did discuss an off-leash member congratulating her on the birth of a new baby and the interactions being cordial, but there was not the sense of longer-term or more meaningful relationships growing out of the park for the on-leash participants.

Dogs as Avenues for Engagement

Dogs mediate human processes and relationships in another way: by engaging people civically and politically. The effect of animals on national and international public policy has been identified in prior work (Emel et al., 2002; Jones, 2000; Wolch, 2002; Wolch et al., 2000), as has the specific effect of dogs on smaller-scale civic engagement (Wood et al., 2007).

The development of the off-leash lobbying group, the letter writing campaigns, attendance at public meetings, and even runs for elected office by two people involved in the discussions, suggest a high level of political engagement. The high level of activity grows out of three different routes, directly and indirectly related to their dogs. People love their dogs and want to protect them; they use the park to exercise their dogs and have incorporated this usage into their daily lives; and they have developed close personal relationships at the park, resulting from their frequent usage.

Interestingly, of the sixteen off-leash people interviewed, only four spoke about their dogs as their reason for political involvement. However, the four people who were politically motivated by their dogs were passionate in their discussions, referring to their animals as "children" and "family," in keeping with prior research (Fox, 2006; Power, 2008; Risley-Curtiss et al., 2006a). Two people talked about "standing up" for the ones they love. Alice stated:

I'm just speaking for a dog who can't speak for himself. And I think maybe that had something to do with it. We were all giving voice to our animal that didn't have a voice, you know. And I don't know, it would be interesting to, for me, to know if other people who were involved in this were ever involved in other things or if this was just...because it's so close to your heart.

Two other off-leash group members, Sam and Jean, made similar comments.

For others, their political engagement was an indirect result of having dogs as companions. As political scientists well know, people engage in issues that impact their daily lives (Verba & Nie, 1972). Barbara, a member of the off-leash group,

echoed this sentiment:

That's the thing that makes me participate—when I feel something affects me personally...if it's a cause that I can, you know, I see makes a difference for me and also touches people I care about then I put my time and energy into working with that cause.

Two members of the on-leash group, Paul and George, similarly cited the personal nature of the issue as the motivation behind their involvement.

For dog owners, having a regular space in which to exercise their dogs is an essential and daily issue. Michael, a member of the off-leash group, stated "I was going every day. I would go very early and it would just be a way of starting the day." Four off-leash supporters cited daily usage and five others cited twice daily usage. Three other members of the group stated they would go three to five times per week. For these twelve individuals, the park was a very regular component of their schedules and thus struck a personal chord with them. At least one Letter to the Editor (January 28, 2010) cited similar usage. For these individuals, aspects related to dog ownership brought people into the political realm and encouraged them to engage.

Still others in the off-leash group became politically involved as a result of the social networks and more substantial relationships that developed as a result of dog ownership. As is evident from the earlier discussion, people formed important human relationships at the park, relationships they were unwilling to give up easily. Although this road into the political arena is not directly the result of having a dog, the evidence presented earlier suggests that many of these relationships only developed through people initially and consistently using the park because of their dogs.

Some off-leash participants became civically engaged beyond the park issue, but their involvement clearly resulted from it. Two individuals ran for elected positions on the Committee and another individual took a voluntary position on a town-wide board.

Those on the on-leash side of the debate were similarly

active—writing letters, engaging in public hearings, and contacting town officials. They were also drawn in by the dogs, and what they saw as the imposition of the dogs on their lives and in the park, speaking to the issue of contested spaces (Drew, 2012; Jones, 2000; Tissot, 2011; Wolch et al., 2000).

Six participants on the on-leash side of the debate cited the noise, “wild dogs,” and dog feces as their reasons for involvement. They initiated and were drawn into the debate as a result of the dogs, even though they may or may not have been dog owners themselves.

The Dark Side of Dog-Mediated Human Relationships

Another clearly identified trend is more negative, highlighting how dogs may encourage interpersonal hostility, stereotyping, and exclusion and boundary making within a community.

Besides the obvious example of the fight over the park, the interviews revealed some less obvious ways that dogs negatively impacted human interactions, in keeping with prior research (Drew, 2011; Tissot, 2011).

Five people interviewed from both sides of the debate discussed the issue of cliques. For some, the formation of cliques was clearly tied to dog breed. An on-leash proponent stated:

Just like any social environment cliques started... People started disliking certain dogs as well as their owners. So cliques formed, like the Golden Retriever group, and they started not liking other groups, like the mutt group. Even at one point, the owners of the mutt group were referred to as mutts.

Marilyn, another on-leash activist, talked about her initial experience with her dog, years before the controversy started. She stated:

We got a puppy around that time and it was a no brainer to head over to the field. At that time, there were three women who had kids at Smith School, like my kids, and we used to meet at the park. But they didn't like my dog. The little terriers, you know, tend to get nippy and bark a lot.

Jean, a member of the off-leash group, clearly felt the stigma associated with her dogs and described the setting as a "microcosm of humanity." She stated:

There was a lot of prejudice against my dogs because they looked wolfy. People just assumed they were going to chomp on something or someone...It was my first real exposure to prejudice. I started working in the '70s as a woman in a man's world and I didn't get as much prejudice as my dogs! From the negative viewpoint, it really is very cliquey. It's hysterical. The people who own the Golden Retrievers think their dogs are precious and perfect.

This woman also stated that she limited her political activism because she was concerned about people's reactions to her dogs.

For three of the people who touched on the issue of cliques, feelings of exclusion were not specific to individual dogs or breed. Barbara, an off-leash proponent, said the park was:

What it looked like in elementary school. For the dogs, it seems like the playground situation, and sometimes being the owner of a dog feels like that, too...I was not really, like, part of the group. I was not, if there was, like, a key equivalent of the popular crowd, I was not known to these people. They didn't know me. They didn't know my value.

John, a member of the off-leash group, stated "I never truly felt I was part of one group or another...I think last summer they [the off-leash group] all had a barbecue and I was never invited, so I don't really consider myself part of the inner circle."

Connected to the issue of clique-formation and exclusion is the notion of stereotyping. Stereotypes based on dog ownership appeared in multiple interviews, among both on-leash and off-leash individuals. Stereotyping removes a person's independence and individualism, with broad generalizations made based upon one characteristic.

In this vein, dogs were seen as markers of human friendliness and warmth. George, a dog owner, park neighbor, and

on-leash supporter, stated "Dog people are normally cool people." A woman on the off-leash side said "I sort of look at people now, if they have kids I think 'Are you a dog owner or not? Are you going to get angry with me?'" She continued on "If you have a dog, I think of you as a nicer person and I never sort of really felt that way."

In other instances, a person who is at the park without a dog triggers negative feelings. Jean, an off-leash advocate, stated "I know this sounds terrible, but I will admit to looking at some people there [at the park] and thinking of them as interlopers. This really does sound horrible when I say it out loud!" Alice, another woman on the off-leash side of the argument, stated "When we walk down the streets that abut the park, our family, the three of us, will have a conversation about 'I wonder if those people were pro-dog or not pro-dog.'" An on-leash participant stated she was concerned that people would think she was not a nice person because she does not particularly like dogs.

Discussion

Previous studies have identified dogs as important companions and friends, who are dearly loved by their humans (Fox, 2006; Power, 2008; Wolch, Brownlow & Lassiter, 2000). Research has also documented the physical and mental health benefits that accrue to dog owners, and in some cases, the larger community (McNicholas & Collis, 2000; Toohey & Rock, 2011; Wood et al., 2005, 2007). Other research has, however, documented some of the negative effects that dogs may have on communities, particularly more urban, more diverse, and less affluent ones (Drew, 2011; Tissot, 2011; Toohey & Rock, 2011).

The interviews, articles, and observations in this study show evidence of both the positive and negative effects of dogs on the larger community. The positive themes identified here—the growth in social interactions, bonding and bridging social capital, and civic engagement—have been identified before (McNicholas & Collis, 2000; Wood et al., 2005, 2007). In this instance, the positive outgrowths accrued disproportionately to the off-leash advocates who formed a clearly defined group, with few of these benefits appearing for on-leash proponents.

The negative effects of dogs on the larger community have also been documented, but not in a community such as this. Prior research has identified divisions and isolation resulting from dogs in the neighborhood, but within poorer, more diverse, urban areas (Drew, 2011; Tissot, 2011; Toohey & Rock, 2011). Dogs are used to create lines in gentrifying neighborhoods (Drew, 2011; Tissot, 2011) and divide people over the use of space (Jones, 2000; Wolch et al., 2000). The findings from this study suggest that dogs can lead to such tensions over the use of public space, even in an upper-middle class community such as this. This is an important finding, given the increased understanding of how public space influences social contact and potentially the growth of social capital (Wood & Giles-Corti, 2008).

Why Dogs?

Although one cannot place all of the credit or blame on dogs, they certainly play a role in each of these processes and it would be difficult to find another vehicle, beyond possibly children, that carries so much weight (Wood, Giles-Corti, Zubrick, & Bulsara, 2012).

A growing body of evidence finds that dogs exist in a liminal space in western society (Fox, 2006; Power, 2008; Wolch et al., 2000). We have moved beyond the binary "human-non-human" paradigm, with dogs viewed as closer to humans than many other animals. This view of dogs as something more than simply "non-human" is evident in this study of the park, with people describing their dogs as "more than gerbils," "like children," and "as part of the family." The unique role that dogs play in people's lives make them particularly influential in these events and processes.

The development of social relationships and the expansion of social networks are heavily influenced by dogs, as a result of the time and regularity associated with their care. Dogs need to be exercised frequently, placing many of the off-leash people at the park on a daily basis. The off-leash people discussed their contact and friendships with those who are not dog owners, but are at the park regularly for some other reason.

Relatedly, dogs play a role in people's civic and political engagement. The immediacy and the relevancy of the issue to

people's lives show the way in which dogs are able to draw people into the civic realm and serve as an avenue of political engagement. For those on the off-leash side of the issue, people became engaged because they love their dogs. They are also reminded on a daily basis of what the restriction means for their animals (an inability to exercise) and for themselves (a change in routine and an inability to connect with friends). For those on the on-leash side, the noise and feces associated with dogs and experienced by them on a regular basis engages them. In a particularly telling statement, one neighbor who advocated for on-leash rules said, "I couldn't believe how organized, passionate, and motivated people were. There was never any activism like that for President Obama or Senator Brown. That's kind of sad. I guess this is just a much more sensitive issue." Verba and Nie (1972) argue that personal relevancy is essential for political engagement.

The identification of dogs as an additional avenue to civic and political engagement is an important finding. Although previous scholars have explored other types of animal-related political engagement (Brownlow, 2000; Woods et al., 2000), the political involvement documented here is fundamentally different. As one off-leash advocate said when asked about previous political engagement, "Yeah, I mean I've done walks here and there. Like we had a greyhound. I did a 'Save the Greyhound Walk' that somebody else organized and I went on, but it was also kind of from the community service angle." These national and international movements, even when built around animals, tend to encourage engagement through different means and likely have lower rates of direct involvement and commitment. The debate over dogs and the use of public space in this instance appeared to encourage more direct involvement and engagement, beyond this particular case, with two members of the off-leash group running for elected offices and one taking on a voluntary town-wide position.

Finally, this study identified the role of dogs in clique formation, stereotyping, and boundary making, for those on both the on-leash and off-leash sides of the debate. Race, socio-economic status, and gender have long stood as the major divisions in society (Lamont & Fournier, 1992). Recent research on gentrification has found dog ownership to correspond to some

of these long standing bases for stratification, with dog owners being primarily White and upper-middle class in economically and racially mixed urban environments (Drew, 2012; Tissot, 2011). This study finds further evidence of such trends, but expands upon what has been seen before by examining a predominantly White, upper-middle class neighborhood. Even in this more homogenous and stable environment, dogs serve as shorthand to onlookers. Having a dog serves as "evidence" of warmth and openness to some, but entitlement and selfishness to others. Further, people make assumptions about an individual's personality based upon dog breed, with lines of demarcation even drawn among dog owners.

Conclusion

This study has attempted to build on the growing body of work that sees animals as being intimately connected with one another. The significant contribution from this work is in its identification of dogs as mediators of human relationships and processes, as a result of their close proximity to humans and preferential placement on the animal spectrum created by people. I have identified ways in which dogs serve both positive and negative roles in an upper-middle class White suburb in the United States through their ability to encourage social interactions and the growth of social capital and civic engagement, but also through the ways they are used to create cliques and stereotypes.

Future Directions

Because this is only one mixed-method qualitative study in one particular community, one must apply these findings with caution. It is not clear whether the trends identified here would be found in other communities, particularly those that are larger and more diverse racially and/or economically. It is also not clear whether other types of animals, such as cats, would lead to similar debates among people.

More work needs to be done to understand how animals mediate relationships among people in a variety of settings. Further, we should consider ways in which dogs may help to

repair human relationships and communities. For example, do the dogs that stand as symbols of White, upper-middle class gentrification do anything to unite groups across racial, ethnic, or economic boundaries? Is there a way for dogs to encourage connections in fragmented communities? Do those who become civically and politically engaged as a result of their dogs stay politically active over the longer term and in regards to other issues? These are just some of the questions that need to be examined in future research.

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Humans' Bonding with their Companion Dogs: Cardiovascular Benefits during and after Stress

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This study examined whether having one's companion dog present during and after stress posed similar cardiovascular benefits as having a close friend present, even when the relationship quality for both the companion dog and friend was highly positive. Positive aspects of relationship quality for participants' dog and friend were not associated with one another, suggesting that these relationships exist independently. Additionally, compared to participants with a close friend present, those with their dog present had lower heart rate and diastolic blood pressure (p 's < .05) while undergoing the stressors, and tended to have lower heart rate and systolic blood pressure (p 's < .09) when recovering from stressors. This study indicates that even when relationship quality is similarly high for companion dogs and friends, dogs may be associated with greater reductions in owners' cardiovascular reactivity to stress, particularly if there is a potential for evaluation apprehension in the human friendships. These findings support the value of the human-companion animal relationship in promoting human welfare.

Key words: *bonding, companion dogs, cardiovascular health, stress*

Repetitive, exaggerated cardiovascular reactivity to psychological stress may influence the development and progression of cardiovascular disease, and more generally, lead to pathophysiological consequences such as metabolic changes, increased inflammation, and immunosuppression (Player, King, Mainous, & Geesey, 2007; Rosengren et al., 2004; Treiber et al., 2003). Research indicates that human social support may buffer cardiovascular responses to stress (Cohen & Wills, 2001). These findings support the value of the human-companion animal relationship in promoting human welfare.

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1985; Uchino, Cacioppo, & Kiecolt-Glaser, 1996) by changing psychological processes (i.e., stress appraisals, emotions) that enable one to cope more efficiently (Blascovich & Mendes, 2000; Lazarus & Folkman, 1984). However, social support's effectiveness to do so may depend on the quality of the relationship (i.e., positive, negative, or ambivalent quality) since not all close relationships are purely positive (Campo et al., 2009; Uchino, Holt-Lunstad, Uno, & Flinders, 2001). Likewise, research has shown that support from individuals with whom we have a positive relationship quality, compared to those with an ambivalent relationship quality (i.e., consists of positive and negative aspects, more prevalent than purely negative relationship quality), is associated with the lowest levels of cardiovascular reactivity during stress (Holt-Lunstad, Uchino, Smith, & Hicks, 2007; Uno, Uchino, & Smith, 2002).

Like human social support, human-companion animal relationships are associated with health benefits that exist after controlling for physical exercise (Serpell, 1991). Additionally, individuals with companion animals have reduced cardiovascular responses to stress compared to those without companion animals (Allen, Blascovich, & Mendes, 2002; Allen, Shykoff, & Izzo, 2001). Other research has shown that interacting with one's companion dog is associated with beneficial neuroendocrine changes in individuals, such as increases in dopamine, oxytocin, and B-endorphin, and decreases in cortisol, a stress hormone (Odendaal, 2000). Importantly, research has found no difference between owners and non-owners in terms of tobacco use, body mass index, or social economic status (i.e., income or education) that may explain such benefits.

Similar to humans' positive relationship quality, the attachment felt with one's companion animal may be a driving component behind many of the psychological and health benefits seen with human-companion animal relationships, including reduced cardiovascular responses to stress. Attachment with one's companion animal is associated with lower rates of depression and anxiety, and higher rates of happiness and self-esteem (Crawford, Worsham, & Swinehart, 2006). However, few studies have examined owners' attachment or relationship quality to their companion animals as a mechanism of the physical health benefits (Krause-Parello, 2008; Nagaswa, Mogi, & Kikusui, 2009; Winefield, Black, & Chur-Hansen,

2008). Research has shown that attachment behavior (e.g., animal-initiated gazing) and high satisfaction with one's companion animal is associated with owners' increased oxytocin levels compared to owners who did not have similar associations with their companion animals (Nagaswa et al., 2009). This is important in human health because oxytocin may be a mechanism for the stress buffering effects of social support (Heinrichs, Baumgartner, Kirschbaum, & Ehlert, 2003).

It should be noted that the benefits derived from human-companion animal relationships are not limited to the psychological and physical health outcomes between an individual and his or her companion animal. Rather, companion animals have also made significant contributions to aiding in social welfare issues. In hospital settings, therapy dog visits can help alleviate pain and distress in chronic pain patients and increase well-being in accompanying family members (Marcus et al., 2012). In psychiatric settings, animal-assisted therapy (AAT) has been successfully used in patients struggling with depression, loneliness, addiction, schizophrenia, and phobias (Dimitrijevic, 2009). AAT can also help individuals who have difficulties with human relationships become more responsive during therapy sessions. In family therapeutic settings, inquiring about the family's pet can ease tension and provide an opening to more difficult conversation topics (Dimitrijevic, 2009; Walsh, 2009). Furthermore, there are a variety of animal-assisted activity (AAA) programs that exist for improving children's reading and communication skills, decreasing loneliness in assisted living facilities, increasing motivation in physical rehabilitation sessions, and increasing empathy and prosocial behaviors in children with severe conduct disorders (Walsh, 2009).

The main purpose of this study was to compare the cardiovascular benefits of having one's companion animal or close friend present during and while recovering from stressors. Furthermore, considering the robust finding that positive human relationship quality is associated with cardiovascular benefits during stress, we wanted to compare these effects specifically for individuals who were attached to their companion animal and had a close friend of positive relationship quality. We predicted that cardiovascular responses would be at least equivalent when comparing participants who had

their companion animal present to those who had their close friend present.

Methods

Participants

A sample of individuals with companion dogs ($N = 162$) were recruited from the community and the University of Utah to participate in the study. The study was advertised in Utah mainstream and alternative newspapers, and flyers were posted throughout the Salt Lake City vicinity. Participants were excluded if they had pre-existing hypertension or cardiovascular disease, used cardiovascular prescription medications, or had a Body Mass Index > 35 . Inclusion criteria were that the participant had had their companion dog and same-sex best friend for at least 2 years in order to ensure that the relationships were not new. Participation was limited to dogs because past research has shown that, after controlling for physiological and psychosocial variables, dogs, compared to other types of companion animals, made a significant contribution to 1-year survival of patients who had been hospitalized for myocardial infarction (Friedmann & Thomas, 1995). This does not mean that other types of companion animals are not associated with health benefits (Allen et al., 2001; Castelli, Hart, & Zasloff, 2001; McConnell, Brown, Shoda, Stayton, & Martin, 2011); rather, we limited our sample to dogs because it helped us minimize any differences due to characteristics associated with different types of companion animals. Additionally, using only owners as participants, instead of including non-owners, may have limited the study's generalizability, but the intent was to compare the benefits of dogs with close friends, without confounding existing differences between owners and non-owners. The study was approved by the University's Institutional Review Board and all participants gave informed consent.

Study Design

This was a 3 (Support Condition: Dog, Friend, Alone) X 2 (Stressor Type: Active- or Passive-Coping Task) factorial study design. The support condition was a between-participants factor, to which participants were randomly assigned. The stressor was a within-participants factor, with the order of

occurrence counterbalanced. A priori power calculations indicated that a sample size of 165 would be sufficient for moderate effect size ($r = .30$), with power = .82 for between-subjects effects, power = .89 for within-subjects effects, and power = .82 for between-within interactions at 5% significance level.

Psychosocial Measures

Relationship quality. Prior to randomization to the support condition, participants' relationship quality (see dog and human relationship quality measures below) with their dog and same-sex best friend was assessed to ensure that neither consisted of negative or ambivalent relationship quality (Uchino et al., 2001). No participants needed to be excluded due to their relationship quality. The Companion Animal Bonding Scale (CABS) and the Pet Attitude Scale (PAS) assessed the relationship quality between the participant and his or her companion dog. The CABS (Poresky, Hendrix, Mosier, & Samuelson, 1987) measures self-reported behavior that is indicative of the bond an owner has with his or her companion animal and the PAS (Templer, Salter, Dickey, Baldwin, & Veleber, 1981) measures the favorableness of attitudes towards companion animals. Chronbach alphas for the CABS ranged from 0.76 to 0.82 in two study samples of adults and parents and 0.93 for the PAS in an undergraduate sample (Poresky et al., 1987; Templer et al., 1981). Construct validity was confirmed in Poresky (1987) by correlating the CABS with the PAS scale ($r = 0.31, p < .001$), suggesting these measures assess similar, but not redundant aspects of attitudes toward pets. Additionally, since a validated questionnaire does not exist that allows one to simultaneously assess both human and companion animal relationship quality, we adapted the Social Relationship Inventory (SRI) (Campo et al., 2009) by only focusing on emotional support, instead of including other types of support functions (e.g., instrumental support). The SRI assessed how important, helpful, and upsetting the dog and friend are when the participant needs emotional support (i.e., provides emotional comfort, relieves stress, or uplifts one's mood). In an undergraduate sample, reported Chronbach alphas were .69 and .80 for the positivity and negativity subscales, and it was correlated with the support ($r = 0.76, p < .001$) and conflict ($r = 0.50, p < .001$) subscales of the Quality of Relationship Inventory (Pierce, Sarason, Sarason, Solky-Butzel, & Nagle, 1997).

Psychological variables. Participants' psychological experience was captured with variables that research has indicated are relevant to stress responses (Cacioppo & Petty, 1986; Lazarus & Folkman, 1984), such as emotions, perceived threat and coping appraisals, and evaluation apprehension. Emotional responses were assessed with a measure that conceptualizes positive and negative affect as independent dimensions (i.e., high negative affect does not imply low positive affect) according to guidelines of Barrett and Russell (1998). Specifically, affect is viewed as an interaction of activation (activated or deactivated) and valence (pleasant or unpleasant). This results in four categories of affect: pleasant-activated (determined, attentive, strong), unpleasant-activated (distressed, nervous, jittery), pleasant-deactivated (calm, at ease, relaxed), and unpleasant-deactivated (bored, tired, sluggish). This measure was completed after baseline, each stressor, and the recovery periods. (I don't understand this sentence.) Perceived threat of the stressor and appraisal of coping ability (Feldman, Cohen, Hamrick, & Lepore, 2004) were assessed prior to each stressor. Evaluation apprehension (i.e., feeling threatened, disturbed, evaluated by the presence of one's companion dog or friend) (Guerin, 1989) was completed after each stressor (i.e., the alone condition did not complete this measure).

Stressors

The stressors were active-coping and passive-coping tasks that are standard laboratory challenges used in psychophysiological research (Sherwood, 1993). Active-coping tasks simulate types of stressors over which an individual has the ability to mentally or physically influence the outcome (e.g., prepare oneself for an upcoming job interview). Passive-coping tasks simulate types of stressors over which an individual has no control of the outcome (e.g., watching a loved one deliver a bad speech). The active-coping stressor consisted of a 5-minute mental arithmetic task in which the participant was asked to subtract out loud by 7's starting with a three-digit number (e.g., starting with 732, subtract by 7's). The participant was instructed that the goal was to get to zero as quickly as possible, but without making any mistakes or the experimenter would verbally alert him/her for every mistake made. The

passive-coping stressor was a cold pressor task that consisted of the participant holding a frozen ice pack to his or her forehead for 2 minutes. Participants were told not to remove the ice pack until the experimenter informed him/her that it could be removed.

Cardiovascular Measures

Systolic blood pressure (SBP), diastolic blood pressure (DBP), and heart rate (HR) were measured continuously during the baseline, the stressors, and the recovery periods with a Dinamap Model 8100 monitor (Critikon Corporation, Tampa, FL). The Dinamap uses the oscillometric method to estimate blood pressure (Epstein, Huffnagle, & Bartkowski, 1991). Means of SBP, DBP, and HR for each period were averaged across minutes to increase the reliability of these assessments.

Procedure

All procedures were conducted in the participants' homes due to University regulations that only service animals were allowed on campus and to help ensure that the companion dogs were more at ease than they would have been in a university laboratory. This helped minimize issues related to atypical or negative dog behavior that might have distracted participants, and it helped increase the ecological validity of the findings. Participants were randomly assigned to one of the support conditions for the entire study: (a) companion dog present, (b) close friend present, or (c) alone during the study. The close friend was the same-sex best friend that the participants had previously rated on relationship quality. Prior to the study session, participants were asked to identify a room in their home that was free from potential distractions (i.e., phone, TV, other people). If the participant was assigned to the alone or friend condition, then his/her companion dog was kept out of the room or the home. This did not adversely affect the experiment, since none of the dogs that were put in a separate room or outside of the home reacted negatively.

Upon beginning the study, a blood pressure cuff was placed on the participant, and after a 10-minute baseline assessment of cardiovascular responses, the source of support (if assigned

to dog or friend condition) was introduced into the room. In the dog condition, the participant was informed that he or she may pet his/her dog if desired, taking care not to move excessively due to the blood pressure readings. In the friend condition, the friend sat close by and was informed that he or she could provide supportive behaviors if desired, but was asked not to provide answers to the arithmetic task. This helped to maintain equivalency between the dog condition and the friend condition. Participants in the alone condition remained alone throughout the study. The order of the consecutive stressors (i.e., math task, cold pressor) was counter-balanced across the study support conditions (dog, friend, alone) and each stressor was followed by an 8-minute recovery period in which the dog or friend remained present.

Results

Participant Demographics

Data were collected on 162 participants; 3 participants were excluded for failure to follow experiment instructions, resulting in a final N of 159 for analyses. The majority of our participants were Caucasian (89%) and female (75.5%), with an average age of 30 years old, and a median household income bracket of \$35,000 to \$55,000. The average length of participants' relationship with companion dog and friend was 5.6 years and 9.5 years, respectively.

Math Performance

A one-way ANOVA did not reveal any differences among the support conditions for the percentage of correct subtractions nor number of attempted subtractions (all p 's $> .1$). This suggests that any potential differences in psychosocial or physiological responses were not due to group differences in effort or performance.

Psychosocial Outcomes

Relationship quality. Participants' scores on the CABS and PAS indicated high levels of bonding and favorable attitudes towards their companion dogs (Table 1). Additionally, the SRI indicated high positive relationship quality with both the dog and friend. Participants felt that their dogs and friends were helpful, not upsetting, and important when needing emotional

support. A comparison of the SRI ratings for dogs and friends revealed that dogs were rated as more important than friends when needing emotional support ($t(154) = -2.89, p = .004$); however, there were no differences between dogs and friends on being helpful or not upsetting during emotional support.

Table 1. Correlations and Descriptive Statistics for Relationship Quality Measures

Measures	1	2	3	4	5	6	7	8
CABS ^a	-							
PAS ^b	.68***	-						
SRI Dog-Important ^c	.54***	.68***	-					
SRI Dog-Upsetting ^c	-.16	-.28**	-.25**	-				
SRI Dog-Helpful ^c	.56***	.69***	.56***	-.32***	-			
SRI Friend-Important ^c	-.03	-.09	.05	.17*	-.05	-		
SRI Friend-Upsetting ^c	.10	.08	.07	.20*	.03	.00	-	
SRI Friend-Helpful ^c	-.03	-.07	.05	.05	-.06	.48***	-.18*	-
M	4.04	4.33	5.59**	1.88	4.83	5.36**	1.81	4.80
SD	.74	.43	.71	.92	1.13	.70	.98	.87
Scale Range	1 - 5	1 - 5	1 - 6	1 - 6	1 - 6	1 - 6	1 - 6	1 - 6

Note. M = means, SD = standard deviation. ^aCompanion Animal Bonding Scale (Poresky et al., 1987). ^bPet Attitude Scale (Templer et al., 1981). ^cSocial Relationship Inventory (Campo et al., 2009). Listwise N = 148. * $p < .05$. ** $p < .01$. *** $p < .001$.

Bivariate correlations were conducted to examine the relationship among the different relationship quality measures (Table 1). As expected, positive aspects of the SRI for one's dog (i.e., importance & helpfulness during emotional support) were positively correlated with the PAS and CABS, and negatively correlated with SRI dog-upsetting. Notably, the SRI positive ratings for friends were not significantly correlated with the positive relationship aspects for dogs. This suggests that individuals can have positive relationship quality with their dogs, independently of their friend's relationship quality. In other words, it is not likely that individuals who bond with their dogs do so because they have difficulty with their human relationships or vice versa.

Unless specified, the following psychological variables were analyzed with 3 (Dog, Friend, Alone) X 2 (Stressor: Math Task, Cold Pressor) Analysis of Covariance (ANCOVAs) and controlled for baseline values. Descriptive statistics for the psychological variables by stressor type are reported in Table

2.

Pretask coping appraisals. To analyze the pretask appraisals of stress and coping resources, we calculated an appraisal ratio following the guidelines of Feldman et al. (2004). An ANOVA revealed a main effect for stressor type, $F(1, 152) = 57.95, p < .0001, \eta^2 = .28$. Overall, participants appraised the math task as more threatening ($M = .63, SE = .04$) given their coping resources than the cold pressor ($M = .37, SE = .02$). However, no significant effects involving the support conditions were found. Thus, all participants viewed the math task as more stressful than the cold pressor.

Emotional responses. Analyses were conducted on changes (i.e., Task - Baseline) in emotional responses (i.e., unpleasant-deactivation, unpleasant-activation, pleasant-deactivation, pleasant-activation) to the stressors and recovery from the stressors. For emotional responses to the stressors, there were no significant effects for stressor type or support condition. However, for recovery from the stressors, there was a significant stressor main effect for unpleasant-activation ($F(1, 150) = 3.78, p = .05, \eta^2 = .03$). Specifically, participants had a larger decrease in unpleasant-activation (i.e., feeling distressed, nervous, and jittery) during recovery from the cold pressor ($M = -.26, SE = .03$) than during recovery from the math task ($M = -.17, SE = .03$). Additionally, there was a significant support condition main effect ($F(2, 150) = 3.35, p = .04, \eta^2 = .04$). Follow-up comparisons revealed that those with their dog present had a larger decrease in unpleasant-activation during recovery ($M = -.30, SE = .04$) than those with their friend present ($M = -.19, SE = .05; p = .07$) or who were alone ($M = -.15, SE = .05; p = .02$). There was no significant interaction between type of stressor and support-member condition.

Evaluation apprehension. Next, the evaluation apprehension felt with the presence of one's dog or friend during the stressors was analyzed. The 'alone' participants did not complete this measure, as there was no one present to potentially increase evaluation apprehension (i.e., the experimenter was out of participants' view). A significant main effect for stressor type indicated that participants felt more evaluated ($F(1, 104) = 24.99, p < .0001, \eta^2 = .19$), disturbed ($F(1, 105) = 12.27, p = .001, \eta^2 = .11$), and threatened ($F(1, 103) = 7.29, p = .008, \eta^2 = .07$) during the math task than during the cold pressor.

Additionally, a significant main effect for support condition indicated that participants with their dog present felt less evaluated ($F(1, 104) = 17.05, p < .0001, \eta^2 = .14$) and less threatened ($F(1, 103) = 5.14, p = .03, \eta^2 = .05$) than those with a friend present.

These main effects were qualified by a significant Support Condition X Stressor Type interactions for feeling evaluated ($F(1, 104) = 37.22, p < .0001, \eta^2 = .26$), disturbed ($F(1, 105) = 5.39, p = .02, \eta^2 = .05$), and threatened ($F(1, 103) = 7.29, p = .008, \eta^2 = .07$). Specifically, during the math task, participants with their dog present felt less evaluated ($p < .0001$) and threatened ($p = .01$) than those with their friend present (Table 2). The interaction for feeling disturbed revealed that participants with their friend present felt more disturbed during the math task than during the cold pressor ($p < .0001$). These results indicate that during the most stressful task (math), participants with their dog present felt less evaluated about their ability to handle the stressor than those with a friend present did.

In summary of the psychological outcomes, the support conditions did not alter participants' emotional responses while undergoing the stressor. However, during recovery from the stressors, participants with their dog present had a larger decrease in unpleasant-activation affect (i.e., distressed, nervous, jittery) than those with their friend present or who were alone. Additionally, we found that participants with a friend present felt more evaluation apprehension compared to those with their dog present, particularly during the math task, which was reported to be more stressful than the cold pressor.

Cardiovascular Responses

ANCOVAs (Support Condition X Stressor Type) were also used to analyze cardiovascular responses (SBP, DBP, & HR) during the stressors and the recovery periods following the stressors. For this purpose, change scores were computed (i.e., Task - Baseline) and the baseline average was included as a covariate. Descriptive statistics for the cardiovascular variables by stressor type are reported in Table 2. *Cardiovascular reactivity during stressors.* Analyses of cardiovascular reactivity during the stressors revealed significant main effects for type of stressor for DBP ($F(1, 150) = 3.93, p = .05, \eta^2 = .03$) and HR ($F(1, 150) = 14.32, p < .0001, \eta^2 = .09$). In both cases, cardiovascular

reactions were higher to the math task (DBP $M = 6.24$, $SE = .52$; HR $M = 7.72$, $SE = .51$) than to the cold pressor (DBP $M = 3.55$, $SE = .42$; HR $M = .92$, $SE = .39$). Furthermore, significant main effects for support condition were found for DBP ($F(2, 150) = 6.51$, $p = .002$, $\eta^2 = .08$) and HR ($F(2, 150) = 4.70$, $p = .01$, $\eta^2 = .06$).

Table 2. Means of Psychological and Cardiovascular Variables

Variables	Alone	Dog	Friend
<i>Math Task Reactivity</i>			
Appraisal Ratio	.63 (.06)	.62 (.05)	.63 (.06)
Threat	--	1.04a (.06)	1.27b (.07)
Evaluation	--	1.51a (.12)	2.78b (.13)
Disturbed	--	1.43 (.12)	1.74 (.13)
Unpleasant-Deactivation	-.41 (.09)	-.50 (.08)	-.41 (.09)
Unpleasant-Activation	.46 (.12)	.40 (.11)	.54 (.12)
Pleasant-Deactivation	-.87 (.14)	-.99 (.13)	-1.13 (.14)
Pleasant-Activation	.31 (.10)	.36 (.09)	.36 (.10)
SBP Δ	7.01 (1.39)	9.54 (1.24)	9.23 (1.37)
DBP Δ	3.62a (.95)	6.23b (.84)	8.86c (.93)
HR Δ	6.81 (.92)	6.35 (.82)	10.02 (.91)
<i>Cold Pressor Reactivity</i>			
Appraisal Ratio	.38 (.03)	.38 (.03)	.37 (.03)
Threat	--	1.04 (.02)	1.02 (.02)
Evaluation	--	1.61 (.13)	1.71 (.14)
Disturbed	--	1.33 (.09)	1.22 (.10)
Unpleasant-Deactivation	-.35 (.09)	-.43 (.08)	-.50 (.09)
Unpleasant-Activation	.18 (.11)	.08 (.09)	.11 (.10)
Pleasant-Deactivation	-.85 (.15)	-.67 (.14)	-.71 (.15)
Pleasant-Activation	.11 (.11)	.27 (.10)	.23 (.11)
SBP Δ	4.11 (1.09)	5.73 (.97)	4.01 (1.07)
DBP Δ	2.62 (.76)	3.51 (.68)	4.52 (.75)
HR Δ	.27 (.70)	.69 (.62)	1.81 (.69)
<i>Math Task Recovery</i>			
Unpleasant-Deactivation	-.16 (.09)	-.35 (.08)	-.17 (.09)
Unpleasant-Activation	-.09 (.06)	-.29 (.05)	-.12 (.06)
Pleasant-Deactivation	-.21 (.11)	-.08 (.10)	-.23 (.11)
Pleasant-Activation	-.07 (.09)	-.02 (.08)	-.17 (.09)
SBP Δ	-.58 (.80)	.16 (.72)	2.05 (.82)
DBP Δ	-.96 (.70)	.04 (.59)	.69 (.67)
HR Δ	-1.34 (.68)	-.55 (.61)	1.07 (.70)
<i>Cold Pressor Recovery</i>			
Unpleasant-Deactivation	-.08 (.09)	-.19 (.09)	.06 (.09)
Unpleasant-Activation	-.21 (.06)	-.30 (.05)	-.26 (.05)
Pleasant-Deactivation	.07 (.11)	.09 (.11)	-.08 (.11)
Pleasant-Activation	-.04 (.09)	-.08 (.09)	-.15 (.10)
SBP Δ	.63 (.89)	.94 (.80)	.59 (.90)
DBP Δ	-.19 (.63)	.52 (.57)	-.25 (.64)
HR Δ	-1.11 (.69)	.33 (.62)	-.06 (.71)

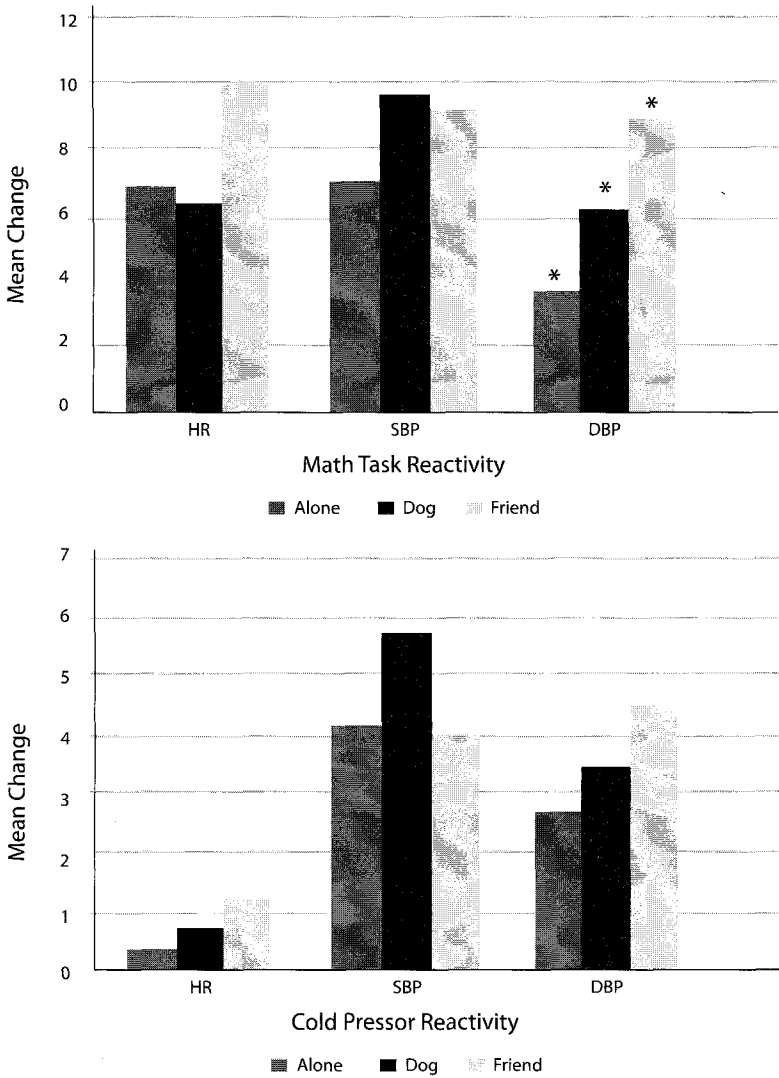
Note. The four affect variables and cardiovascular variables are changes scores (Task – Baseline). Values in parentheses represent standard errors. Dashes indicate variable was not measured for the Alone condition. SBP=systolic blood pressure, DBP=diastolic blood pressure, HR=heart rate. Means in the same row that do not share subscripts differ at $p < .05$. $N=159$; Alone $n=49$, Dog $n=61$, Friend $n=49$.

Participants with their dog present had lower DBP and HR reactivity (Dog: DBP $M = 4.87$, $SE = .63$; HR $M = 3.52$, $SE = .58$) than those with their friend present (Friend: DBP $M = 6.69$, $SE = .69$; HR $M = 5.91$, $SE = .64$; $p < .05$). The dog condition and alone condition (Alone: DBP $M = 3.12$, $SE = .71$; HR $M = 3.54$, $SE = .65$) did not differ from one another, although the friend condition had higher DBP and HR reactivity than the alone condition ($p < .05$). The DBP main effects were qualified by a significant Support Condition X Stressor Type interaction ($F(2, 150) = 2.97$, $p = .05$, $\eta^2 = .04$; Figure 1). Follow-up mean comparisons revealed that, during the math task, those with their dog present had lower DBP reactivity than those with their friend present ($p < .05$). Participants who were alone had lower DBP reactivity than those who had their dog or friend present (p 's $< .05$). No significant effects were found for SBP.

Cardiovascular recovery after stressors. Analyses of cardiovascular responses during the recovery periods from the stressors did not reveal significant main effects for support condition or stressor type. However, there was a significant Support Condition X Stressor Type interaction for SBP ($F(2, 149) = 3.81$, $p = .02$, $\eta^2 = .05$, Figure 2) and a trend interaction for HR ($F(2, 149) = 2.42$, $p = .09$, $\eta^2 = .03$, Figure 2). Follow-up mean comparisons revealed that, during recovery from the math task, those with their dog present tended to have lower SBP ($p = .08$) and HR ($p = .09$) than those with their friend present. The dog present condition did not differ from the alone condition. Additionally, participants with their friend present tended to have higher SBP ($p = .08$) and HR ($p = .09$) than those who were alone.

In summary, during the most stressful task (math), those with their dog present had lower DBP reactivity than those with a friend present. Additionally, across the stressor tasks, participants with their dogs present had lower HR reactivity than those with their friends present. Furthermore, during the recovery period from the math task, there were trends for participants with their dog present to have lower SBP and HR than those with their friend present. These findings suggest that, compared to friends, companion dogs are associated with more cardiovascular benefits for their owners while experiencing stress, as well as aiding in quicker cardiovascular

Figure 1. Cardiovascular Reactivity Means during the Math and Cold Pressor Tasks.

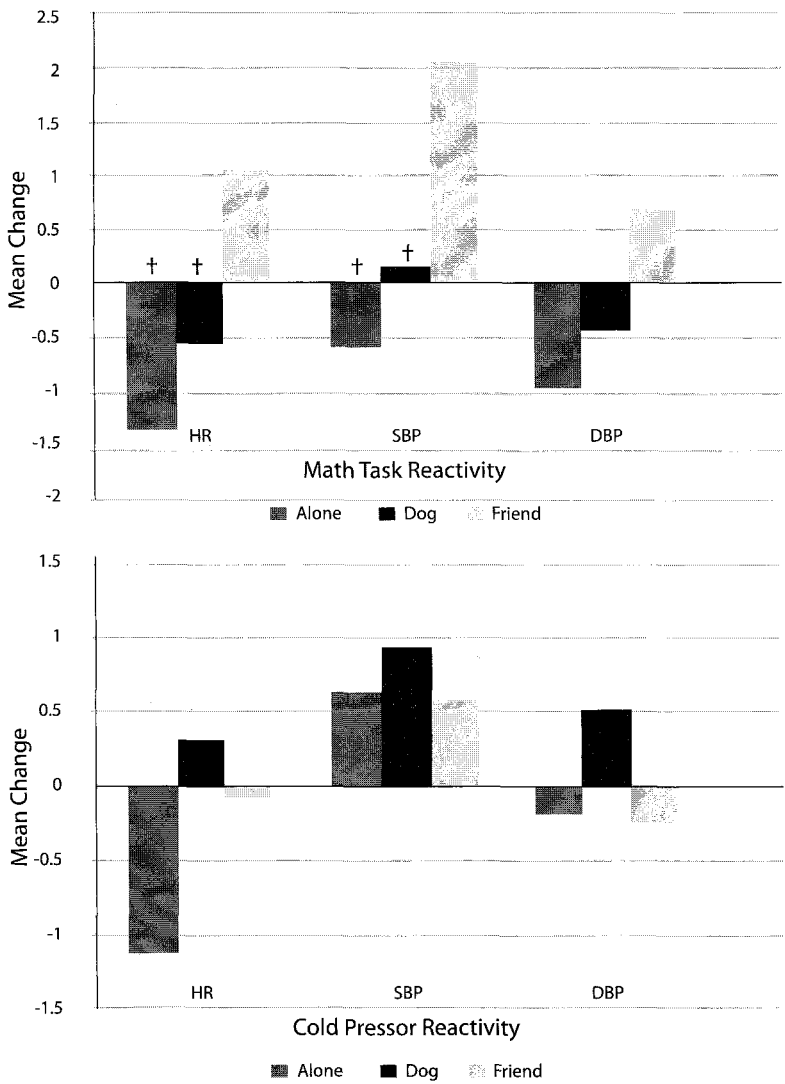


*p < .05

recovery from stress. Next, for exploratory purposes we examined whether the significant findings of feeling evaluated and threatened (evaluation apprehension) during the math task explained the relationship between support condition and DBP reactivity. That is, the presence of a close friend may have

been more stressful than beneficial because of evaluation apprehension concerns (Cacioppo & Petty, 1986; Guerin, 1989).

Figure 2. Cardiovascular Recovery Means after the Math and Cold Pressor tasks.



tp < .09

Mediation Analysis

For mediation analysis, we used the non-parametric bootstrapping procedure of Preacher and Hayes (2008) for multiple mediation. This approach tests the total indirect effect of an independent variable (support condition) on a dependent variable (cardiovascular reactivity) through a mediator or set of mediators (feeling evaluated and threatened), and has the capability to test the specific indirect effects if there are multiple mediators in a set. Interpretation is accomplished by determining whether zero is contained within the 95% confidence intervals. The statistical advantages of this method are that: (1) multiple mediators can be tested simultaneously; (2) it does not rely on a normal sampling distribution; (3) it can be used with relatively small sample sizes; and (4) the number of inferential tests is minimized, therefore reducing the likelihood of Type 1 errors (Preacher & Hayes, 2008).

We examined whether feeling threatened and evaluated, as a set or individually, mediated the relationship between support condition (dog, friend) and DBP reactivity to the math task. This relationship was examined for DBP reactivity because this was found to be a significant Support Condition X Stressor Type interaction. The alone condition was excluded from these analyses as they did not complete the evaluation apprehension measure. The total and direct effects of support condition on DBP reactivity during the math task were 3.59, $p = .009$ and 5.37, $p = .001$, respectively. The total indirect effect through both mediators (feeling threatened and evaluated) was significantly from zero (point estimate = -1.78, 95% BCa bootstrap CI: -3.51 to -0.46). Therefore, as a set, feeling threatened and feeling evaluated mediated the relationship between support condition and DBP reactivity to the math task. Furthermore, examination of the specific indirect effects indicated that only feeling evaluated (a_1b_1 path) was a significant specific mediator (point estimate = -1.79, 95% BCa bootstrap CI: -3.49 to -0.43). In summary, these results suggest that participants with a friend present had greater DBP reactivity to the math task than those with a companion dog present because they felt more evaluated by having their friend present.

Discussion

The main purpose of this study was to examine whether having one's companion dog present during and after stress posed similar cardiovascular benefits as having a close friend present, even when the relationship quality for both the dog and friend was similarly positive. Our results indicated that the presence of a companion dog was associated with lower cardiovascular responses during stressors (i.e., DBP & HR) and trends for lower cardiovascular responses during recovery (i.e., SBP & HR) than having a friend present. The interactions for reactivity (i.e., DBP) and recovery (i.e., SBP & HR trends) revealed this was particularly true during the math task. Moreover, mediation tests indicated that participants with a friend present may have had higher cardiovascular reactivity (i.e., DBP) during the math task because of evaluation apprehension concerns, a finding that has been demonstrated in other research (Cacioppo & Petty, 1986; Guerin, 1989). Unexpectedly, the alone participants' responses were generally comparable to those with a dog present (i.e., except for DBP math reactivity). Guided by the stress buffering literature, we had expected the participants in the alone condition to have the highest levels of reactivity. An explanation may be that those who were alone did not feel distressed because just knowing that their dog was nearby (i.e., room or outside), without the presence of a potentially evaluating friend, made these participants have similar cardiovascular responses as those with the dog present in the room.

In examining emotional responses, we found a trend for participants with their dogs present to have a larger decrease in unpleasant-activation emotions (i.e., feeling distressed, nervous, and jittery) during recovery than those with a friend present and significantly larger decrease than participants who were alone. Additionally, they felt less evaluated and threatened during the math task than those with a friend present. However, there were no differences in other emotions, such as higher positive emotions in the dog condition compared to the other conditions. This is surprising considering that many owners claim to have intense emotional bonds with their companion dogs (Cohen, 2002; Collis & McNicholas, 1998). Similarly, interactions with their animals make people

happier, less lonely, more relaxed, secure, and affectionate (Barba, 1995). We know of no other experimental studies that have examined emotional processes associated with the presence of one's companion animal during stress. However, the lack of results is consistent with social support research that has been unable to find that emotional states differed as a function of support conditions (Gerin, Pieper, Levy, & Pickering, 1992; Lepore, Allen, & Evans, 1993). The emotional measure we used in this study may not have been appropriate for capturing the positive emotions that are associated with the bond between an individual and his/her companion animal. Future studies will need to explore how best to capture this emotional experience with one's companion animal.

Uniquely, this study simultaneously examined individuals' relationship quality with their companion animal and a close friend. As expected, participants reported high levels of bonding with their dogs, and both their friends and dogs were helpful and important when needing emotional support. Interestingly, the ratings for importance of one's dog during emotional support were significantly higher than the ratings for friends. This may be due to these relationships fulfilling different aspects of emotional support. Likewise, Bonas, McNicholas, and Collis (2000) found that companion animals (i.e., mainly dogs) scored higher than humans for fulfilling alliance, nurturance, and companionship needs. Human-animal relationships may be characterized by less variability than human friendships (i.e., friends may become too busy in their own lives to be supportive) and many individuals report their companion animals to be sources of unconditional love. We also found that the positive aspects of relationship quality (i.e., SRI-importance, SRI-helpful) for participants' dogs and friends were not related to one another. This suggests that individuals who value their relationships with their companion animals, or perceive it as a highly positive one, may not be supplementing for a lack of human support. In fact, companion animals can help foster new human relationships as the presence of one's dog while walking or shopping may be associated with increased interactions with strangers. Considering this, it may be possible for individuals to have the best of both worlds: a close bond with one's companion animal and supportive close friends.

A limitation of our study is that the participants were healthy and young. These findings should be tested in older adults and populations with special needs, such as chronically ill or disabled individuals. Existing research has shown that companion animals can help decrease loneliness and daily stress as well as lower depression rates in such vulnerable populations as those living with HIV/AIDS (Castelli et al., 2001), with disabilities, and who are elders (Garrity, Stallones, Marx, & Johnson, 1989; Steffens & Bergler, 1998). This is evidence that companion animals are psychologically beneficial in such vulnerable populations; theoretically, such benefits should carry over to effect physical health outcomes.

In summary, our study indicates that even when relationship quality is similarly positive for companion dogs and close friends, dogs may provide more cardiovascular benefits during stress and while recovering from stress. Particularly in stressful circumstances where there is potential for evaluation, having a friend present may actually make it more stressful. Although it is not always possible to have one's dog present during stressors, these findings indicate that dogs are also associated with cardiovascular benefits afterwards. For example, after a hard day at work, our companion animals may help us rewind, both mentally and physically. Such findings also have important implications for the psychological and physical well-being of a society that experiences significant levels of stress. Stress can lead to the development and/or progression of diseases (e.g., cardiovascular, infectious diseases, diabetes, depression, etc.) by directly contributing to physiological changes or, indirectly, by increasing health behaviors associated with disease risk and poor mental health outcomes. Our relationships with our companion animals can reduce stress levels and buffer the stress-related changes that occur in the body (i.e., increased blood pressure, inflammation, & stress hormones). Furthermore, they may encourage individuals to engage in healthy behaviors to cope with stress, such as choosing to walk the dog instead of attempting to cope through more maladaptive behaviors (e.g., alcohol, drug use, overeating, etc.). Such benefits gained with our companion animal relationships may be reflected on a society level through reductions in stress-related diseases (e.g., cardiovascular, infectious diseases, diabetes, etc.) and improvements in psychological

well-being. Consequently, society holds a mutually beneficial and rewarding relationship with companion animals—we provide shelter and care for them and, in turn, the emotional bonds we share help reduce our stress and the development of stress-related diseases.

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Attachment, Social Support, and Perceived Mental Health of Adult Dog Walkers: What Does Age Have to Do With It?

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In part of a larger pilot study of dog walking as a physical activity intervention we assessed levels of attachment, social supports, and perceived mental health of 75 dog owners, identified through a tertiary-care veterinary hospital. Owners completed the Medical Outcomes Study (MOS) Social Support Survey, mental health component of the Short-Form-12 (SF-12) Health Survey, and the Lexington Attachment to Pets Scale (LAPS). Of particular interest was that younger owners had stronger attachments to their dogs ($r = -.488; p < .001$) and less social support ($r = .269; p = .021$). Our study

suggests the importance of companion animals for social support, particularly for those without close friends/relatives. For younger owners, our study reveals vulnerabilities in support networks that may warrant referrals to human helping professionals. We suggest the use of Carstensen's Socioemotional Selectivity Theory as an interpretive framework to underscore the importance of including companion animals as part of the human social convoy, especially in terms of providing affectionate and interactional social support.

Key words: animal companion, companion animal, human-animal bond, human-animal interaction, friend, pet

In this paper we focus on the social support and perceived mental health of a group of adults who walk their dogs. Following a brief contextual background on what is known about social support and mental health of animal owners, we look at a subset of findings from a pilot study. Based on our findings, we will discuss theoretical considerations, the importance of assessing the multidimensionality of social support, and implications for helping professionals.

Social Support and Mental Health

The positive health effects of human-animal companionship have long been documented (e.g., Franklin, Emmison, Haraway, & Travers, 2007; Garrity & Stallones, 1998; Lynch, 1977). The benefits of having an animal companion to provide physical and emotional support are well described in the literature (e.g., Albert & Anderson, 1997; Albert & Bulcroft, 1988; Cain, 1983; Carmack, 1985; Katcher & Beck, 1983; Kellert, 1980; Planchon, Templer, Stokes & Keller, 2002; Risley-Curtis, Holley, & Wolf, 2006; Sanders, 1993; Seigel, 1993; Voith, 1985). Companion animals may also serve as a source of human social support (Mugford & M'Comisky, 1975; Peretti, 1990; Serpell, 1991). Companion animals can serve as part of a friendship network, bolster their companions' sense of competence and self-worth, serve as a source for nurturance and love, and provide the opportunity for shared pleasure in spontaneous recreation and relaxation (Collis & McNicholas, 2001; Jennings, 1997; McNicholas & Collis, 2001; Wilson, Fuller & Cruess, 2001; Wilson, Fuller, & Triebenbacher, 1998).

"For centuries people have noted that animals can have a positive influence on human functioning" (Nimer & Lundahl,

2007, p. 225), and it is not unusual for companion animals to be seen as an essential element in family life (Eckstein, 2000). Human-animal interactions can have health benefits for owners, including lowering blood pressure (Allen, 2003), lowering stress (Barker, Rogers, Turner, Karpf, & Suthers-McCabe, 2003), increasing psychological support (Cutt & Giles-Corti, 2008), and even increasing physical activity (Cutt & Giles-Corti, 2007). Specific to mental health, a meta-analysis of five studies using animal-assisted activities to treat depression was performed by Souter and Miller (2007). Their findings indicate that animal-assisted interventions may be associated with fewer symptoms of depression, thus contributing to the patient's mental health. These benefits are well documented (Woodward & Bauer, 2007).

Companion animals play a positive role in childhood development (e.g., Anderson & Olson, 2006; Bryant & Donnellan, 2007; Esposito, McCune, Griffin, & Maholmes, 2011; Furman, 1989). They also serve as a source of social and emotional support for elderly persons (e.g., Banks & Banks, 2002; Lust, Ryan-Haddad, Coover, & Snell, 2007; Wilson & Netting, 1987). Risley-Curtiss and her colleagues (2006a) describe the central role companion animals play in family systems from an ecological perspective, and building on the work of Wilson and Netting (1987), also offer a potential model for understanding women's views of companion animals. Many women consider animals to be family members (Risley-Curtiss et al., 2006a), and men appear to consider animals as family, although not always equivalent to human family members (Risley-Curtiss, Holley, & Kodiene, 2011).

Companion animals are also important conduits of social capital. Social capital, "has been conceptualized as the features of social life—networks, norms and social trust—that enable participants to act together more effectively to pursue shared objectives, or to facilitate coordination and cooperation for mutual benefit" (Wood, Giles-Corti, & Bulsara, 2005, p. 1159). Dog walking, for example, is a social activity whereby an individual gets to know other dog owners, performs outdoor physical activity, and engages in communication and information sharing. Dog ownership can be "a protective factor for mental health, which in turn may influence attitudes toward, and participation in, the local community and relationships with people in the community" (Wood et al., 2005, p. 1162).

Thus, dog walkers become part of a larger community of interactions as they move along sidewalks, exercise within parks, and traverse their neighborhoods and local environments.

Our original research project was designed to study how a dog walking intervention might influence health. We had not hypothesized that younger owners would have significantly different social supports than older owners and had not attempted to recruit adults in various life stages in order to examine intergenerational differences across the adult life course. In retrospect, it was fortunate that we were able to recruit a diverse age group of adults. In fact, given the focus on isolation among older people and the potential vulnerabilities of old age, we would likely have thought older adults might have had lower social support scores than younger cohorts of adult owners. To our surprise, in the course of examining our data, we noticed that there appeared to be differences among older and younger dog walkers in terms of social support and perceived mental health. These differences caused us to explore the implications for owners at earlier stages of the life course and at later life stages to suggest theoretical explanations for these differences, recommend possible future research directions, and offer practice implications for exploring and honoring these potential differences.

Methods

As part of a larger pilot study of dog walking as a physical activity intervention (Owners and Pets Exercising Together [OPET]) we assessed levels of attachment, social support, and perceived mental health of a cohort of adult dog owners. The study was approved by the Institutional Review Board (IRB) and the Institutional Animal Care and Use Committee (IACUC) of the Uniformed Services University of the Health Sciences. Dog owners, 18 years and older, presenting for care at a tertiary-care veterinary hospital were recruited to participate through flyers posted in public areas of the hospital. Additionally, each dog owner was given a copy of the flyer upon check-in and a verbal invitation to participate was made by the treating veterinarian if the dog was two years of age or older and medically cleared to engage in physical activity.

Eligible participants returned for a follow-up appointment and met with a research associate who completed the informed consent process. Owners were asked to complete a demographic form and self-report measures related to their perceived health, physical activity, stress, social support, and relationship with their companion animals. Animal owners also completed the Medical Outcomes Study Support Survey (MOS Social Support Survey), the mental health component of the Short-Form-12 (SF-12) Health Survey, and the Lexington Attachment to Pets Scale (LAPS).

The MOS Social Support Survey was originally developed as a brief, self-administered, multidimensional social support survey for patients in the Medical Outcomes Study (Sherbourne & Stewart, 1991). Social support refers to the provision of psychological and material resources intended to assist a person in coping with stress. The MOS Social Support Survey begins by asking "how many close friends and close relatives do you have (people you feel at ease with and can talk to about what is on your mind)?" This question is followed by five-point (none of the time = 1, a little of the time = 2, some of the time = 3, most of the time = 4, and all of the time = 5) answer scales to measure four aspects of social support including: (1) tangible support; (2) affectionate support; (3) positive social interaction; and (4) emotional and informational support. Tangible support includes helping when confined to bed, taking one to the doctor, preparing meals, and doing chores. Affectionate support includes showing love and affection, hugging, and feeling wanted. Positive social interaction includes having a good time with, relaxing together, getting one's mind off things, and doing something enjoyable with. Emotional support includes listening, giving good advice, providing information, serving as a confidant, sharing worries and fear, turning to for suggestions, and understanding one's problems. Each subscale is scored by summing the responses checked (1-5) for the relevant items, with high scores indicating more support. Permission to use this instrument was obtained (Sherbourne & Stewart, 1991), and an overview of its background and psychometric properties is provided in McDowell and Newell (1996, pp. 138-139).

The Short-Form-12 (SF-12) Health Survey is a measure of

two components: (1) perceived mental health; and (2) physical functioning. In our study, we only used the mental health component to measure perceived mental health. This instrument is in the public domain. The mental health component of the SF-12 contains the following instructions and questions:

These questions are about how you feel and how things have been with you during the *past week*. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the *past week* . . . 'have you felt calm and peaceful,' and 'have you felt downhearted and blue.'

These statements are rated according to a six point scale (1 = all of the time, 2 = most of the time, 3 = a good bit of the time, 4 = some of the time, 5 = a little of the time, and 6 = none of the time). Construction of the mental health summary component of the SF-12 and its psychometric properties are provided in Ware, Kosinski, and Keller (1996).

Attachment has long been studied by persons interested in human-animal interaction (Bagley & Gonsman, 2005), and a number of tools have been developed to assess the human-animal relationship (Anderson, 2007). One of the most cited tools is the Lexington Attachment to Pets Scale (LAPS), which incorporates items from the Pet Attitude Scale (PAS), the Companion Animals Bonding Scale (CABS) developed by Poresky, Hendrix, Mosier, and Samuelson (1987), and the Pet Attitude Inventory (Wilson, Netting, & New, 1987). After obtaining permission, we chose the LAPS (Johnson, Garrity, & Stallones, 1992) due to its ease of use and excellent psychometric properties. It should be noted that LAPS has been used primarily with adult populations, but not extensively across cultural groups. The LAPS instrument asks pet owners to assess their level of agreement with 23 statements on a four-point scale (agree strongly = 3, agree somewhat = 2, disagree somewhat = 1, disagree strongly = 0). Item scores are summed, with higher scores indicating greater levels of attachment. Sample statements include: My pet means more to me than any of my friends; Quite often I confide in my pet; and I believe that pets should have the same rights and privileges as family members (see Table 3 for the entire list of LAPS' statements).

Table 1. Demographics of Dog Walkers (N = 75)

Demographic Information	Number	Percentage
Age		
18-30	17	22.7%
31-40	20	26.7%
41-50	13	17.3%
51-60	13	17.3%
61 and older	12	16.0%
Gender		
Male	13	17.3%
Female	62	82.7%
Marital Status		
Married	36	48.0%
Divorced	9	12.0%
Separated	1	1.3%
Never Married	29	38.7%
Living Arrangement		
Alone	15	20%
With Others	60	80%
Race		
Black/African American	6	8.0%
White	61	81.3%
Other	7	9.3%
Missing	1	1.3%
Income		
Less than \$20,000	2	2.7%
\$20,000- 40,000	14	18.7%
\$40,000- 60,000	4	5.3%
\$60,000- 80,000	15	20.0%
\$80,000-100,000	8	10.7%
Greater than \$100,000	32	42.7%
Education		
High School	4	5.3%
Some Technical School	2	2.7%
Technical School Graduate	3	4.0%
Some College	15	20.0%
College Graduate	23	30.7%
Post Graduate/Professional Degree	28	37.3%
Housing		
Single Family	40	53.3%
Townhouse	21	28.0%
Apartment/Condo	13	17.3%
Missing	1	1.3%

As records were received each document was encoded and inspected for errors. Unanswered items were coded as missing data. Demographic and survey data were analyzed using SPSS. Frequency distributions were generated and

correlational analyses were performed, followed by a series of linear regression models.

Results

Seventy-five (75) individuals began the study, and they were administered the measurements described earlier at baseline. It is these data that are reported here. The dog owner's average age was 43.5 years (range 18 - 73) and the dog's average age was 3 years (range 2 - 16). A typical owner was a single, White, educated, female living with others. Table 1 provides a summary of demographic characteristics.

Social Support

Overall, owners reported a high level of support. Most owners reported having one or more close relatives. When asked to report numbers of friends, however, 40% of study participants had either none ($n = 15$) or only one close friend ($n = 11$). Ten (10) owners indicated they had no close relatives.

Most participants reported that they had access to tangible support (someone to help if one was confined to bed, needed a doctor, needed help with preparing meals, or help with chores) most or all of the time. The majority of owners had access to affectionate support (love, hugs, and feeling wanted) most or all of the time as well. Similarly, the majority of owners had opportunities for positive social interaction (someone to have a good time with, relax with, help keep one's mind off things, and to enjoy), as well as to provide emotional and informational support. Table 2 provides a summary of participants' scores on the MOS Social Support Survey.

Attachment

All owners agreed with the statement "I consider my pet to be a friend." Fifty-two owners (72%) agreed with the statement that "my pet means more to me than any of my friends" and 59 (81%) agreed with the statement "I believe my pet is my best friend." Sixty-three owners (89%) loved their pets because their dog never judged them. Sixty-seven (92%) indicated that their pet knows when they are feeling badly. All owners indicated that they believed that loving their pets helped them to stay healthy and makes them feel happy. All owners saw their

pet as part of their family. Table 3 provides a summary of participants' scores on the LAPS.

Table 2. Participants' Scores on the Medical Outcomes Study (MOS) Social Support Survey (N = 74)

Type of Support	A Little to None of the Time	Some of the Time	Most to All of the Time
<i>Tangible Support</i>			
Someone to help if you were confined to bed	5 (6.8%)	15 (20.3%)	54 (73%)
Someone to take you to the doctor if you needed it	3 (4.1%)	6 (8.1%)	65 (87.8%)
Someone to prepare your meals if you were unable to do it yourself	5 (6.8%)	10 (13.5%)	59 (79.8%)
Someone to help with daily chores if you were sick	5 (6.8%)	16 (21.6%)	53 (71.6%)
<i>Affectionate</i>			
Someone who shows you love and affection	5 (6.8%)	3 (4.1%)	66 (89.2%)
Someone who hugs you	3 (4.1%)	12 (16.2%)	59 (79.7%)
Someone to love and make you feel wanted	2 (2.7%)	5 (6.8%)	67 (90.5%)
<i>Positive Social Interaction</i>			
Someone to have a good time with	2 (2.7%)	8 (10.8%)	64 (86.5%)
Someone to get together with for relaxation	4 (5.4%)	10 (13.5%)	60 (81.1%)
Someone to do things with to help you get your mind off things	6 (8.2%)	9 (12.2%)	59 (79.7%)
Someone to do something enjoyable with	3 (4.1%)	8 (10.8%)	63 (85.2%)
<i>Emotional or Informational Support</i>			
Someone you can count on to listen to you when you need to talk	3 (4.1%)	6 (8.1%)	65 (87.8%)
Someone to give you good advice about a crisis	2 (2.8%)	8 (10.8%)	64 (86.5%)
Someone to give you information to help you understand a situation	3 (4.1%)	4 (5.4%)	67 (90.5%)
Someone to confide in or talk to about yourself or your problems	1 (1.4%)	6 (8.1%)	67 (90.6%)
Someone whose advice you really want	5 (6.8%)	3 (4.1%)	66 (89.2%)
Someone to share your most private worries and fears with	3 (4.1%)	9 (12.2%)	62 (83.8%)
Someone to turn to for suggestions about how to deal with a personal problem	3 (4.1%)	4 (5.3%)	67 (90.5%)
Someone who understands your problems	5 (6.8%)	10 (13.5%)	59 (79.7%)

Instrument used with permission. Source: Sherbourne, C.D., Stewart, A.L. (1991). The MOS social support survey. *Soc.Sci.Med.* 32:713-714.

Age, LAPS, MOS, Friends/Relatives, and Perceived Mental Health

There were no statistically significant relationships between owners' scores on the LAPS and the MOS or its subscales. However, younger owners had stronger attachments to their dogs ($r = -.488$; $p < .001$) and less overall social support ($r = .269$; $p = .021$). Specifically, younger owners had less social

support on tangible ($r = .316$; $p = .006$) and emotional/informational support subscales ($r = .230$; $p = .049$) of the MOS. Additionally, owners' perceived mental health scores were higher when they had more friends/relatives ($r = .235$; $p = .048$). Table 4 provides a summary of the p values for Spearman correlations for owner age, LAPS, MOS, perceived mental health, and numbers of friends/relatives.

Multivariate Models

To determine if the association between age and attachment to companion animals might be explained by lack of social support, we fit a series of nested linear regression models, with LAPS scores as the dependent variable and independent variables added in four blocks in a hierarchical manner. In the first block, age was the only independent variable. As with the simple correlations, age was significantly associated with LAPS. For each additional year of age, the average LAPS score decreased by .274 ($p < .001$). In the second block we added demographic variables: income, education, sex, and race. These variables explained only an additional 4.5 percent of the model variance and did not contribute significantly to the fit of the model ($p = .560$). In the third block, we added marital status (coded to compare married versus not married). Marital status was entered separately from the other demographic variables because it may be more closely related to social support. The average LAPS for married subjects was 4.53 points lower than for unmarried subjects, but this did not quite reach statistical significance ($p = .053$). Finally, we added the four MOS subscale scores to the model. As a group, these variables did not significantly contribute to the fit of the model, explaining only 1.9 percent of the model variance ($p = .863$), and the association between age and LAPS was essentially unchanged. The estimated association between age and LAPS remained essentially unchanged across the four models (Table 5).

Discussion

There was little variation in attachment levels among owners in our study. All owners in our study affirmed that

Table 3. Participants' Scores on the Lexington Attachment to Pets Scale (LAPS)*

Item	Disagree Strongly	Disagree Somewhat	Agree Somewhat	Agree Strongly
a. My pet means more to me than any of my friends.	6 (8.3%)	14 (19.4%)	33 (45.8%)	19 (26.4%)
b. Quite often I confide in my pet.	13 (18.3%)	14 (19.7%)	24 (33.8%)	20 (28.2%)
c. I believe that pets should have the same rights and privileges as family members.	6 (8.3%)	17 (23.6%)	20 (27.8%)	29 (40.3%)
d. I believe my pet is my best friend.	7 (9.6%)	7 (9.6%)	26 (35.6%)	33 (45.2%)
e. Quite often, my feelings toward people are affected by the way they react to my pet.	7 (9.7%)	12 (16.7%)	32 (44.4%)	21 (29.2%)
f. I love my pet because he/she is more loyal to me than most of the people in my life.	14 (19.7%)	17 (23.9%)	25 (35.2%)	15 (21.1%)
g. I enjoy showing other people pictures of my pet.	4 (5.5%)	2 (2.7%)	31 (42.5%)	36 (49.3%)
h. I think my pet is just a pet.	59 (80.8%)	10 (13.7%)	2 (2.7%)	2 (2.7%)
i. I love my pet because it never judges me.	5 (7.0%)	3 (4.2%)	31 (43.7%)	32 (45.1%)
j. My pet knows when I'm feeling bad.	1 (1.4%)	5 (6.8%)	31 (42.5%)	36 (49.3%)
k. I often talk to other people about my pet.	0 (0%)	3 (4.2%)	34 (47.2%)	35 (48.6%)
l. My pet understands me.	4 (6.0%)	6 (9.0%)	33 (49.3%)	24 (35.8%)
m. I believe that loving my pet helps me stay healthy.	0 (0%)	0 (0%)	19 (27.6%)	50 (72.5%)
n. Pets deserve as much respect as humans do.	0 (0%)	1 (1.4%)	17 (23.6%)	54 (75.0%)
o. My pet and I have a close relationship.	0 (0%)	2 (2.8%)	16 (22.2%)	54 (75.0%)
p. I would do almost anything to take care of my pet.	0 (0%)	3 (4.2%)	11 (15.3%)	58 (80.6%)
q. I play with my pet quite often	0 (0%)	1 (1.4%)	26 (36.6%)	44 (62.0%)
r. I consider my pet to be a great companion.	0 (0%)	0 (0%)	12 (16.7%)	60 (83.3%)
s. My pet makes me feel happy	0 (0%)	0 (0%)	8 (11.1%)	64 (88.9%)
t. I feel that my pet is a part of my family.	0 (0%)	0 (0%)	5 (6.9%)	67 (93.1%)
u. I am not very attached to my pet.	67 (93.1%)	2 (2.8%)	3 (4.2%)	0 (0%)
v. Owning a pet adds to my happiness.	0 (0%)	0 (0%)	11 (15.3%)	61 (84.7%)
w. I consider my pet to be a friend.	0 (0%)	0 (0%)	10 (14.1%)	61 (85.9%)

*Note that numbers under each item add to 67-73 depending on missing data in which respondents did not always complete every item of the LAPS

their dogs contribute to their health, are great companions, make them happy, are part of their families, add happiness to their lives, and are their friends. It is important to note that high levels of attachment are not surprising, given that the sample drawn for this study comes from a tertiary care veterinary hospital to which highly bonded and committed owners will come for animal care. Therefore, the fact that all study participants show a strong bond needs to be considered within this context. Even with this high overall level of attachment, younger adults in our study were significantly more attached to their dogs than older participants.

Table 4. p-values for Spearman Correlations

	Owner Age	LAPS	Mental Health
Owner Age	n/a	-4.88 (.<.001**)	.059 (.626)
LAPS	-.488 (.<.001**)	n/a	-.092 (.514)
MOS score	.269 (.021*)	-.166 (.221)	.199 (.095)
MOS tangible	.316 (.006**)	-.220 (.103)	.035 (.772)
MOS affectionate	.201 (.086)	-.080 (.559)	.092 (.444)
MOS interaction	.164 (.162)	-.161 (.235)	.299 (.011*)
MOS emotional	.230 (.049*)	-.045 (.742)	.203 (.090)
Friends/ Relatives	.101 (.394)	-.048 (.725)	.235 (.048*)

*p < .05 ; **p < .01

What these findings reveal is a highly attached group of dog owners who have strong support from friends/relatives overall, with one caveat. Certain types of support appear to be less available the younger the owner's age. Why might this be?

Table 5. Variables Associated with LAPS in Linear Regression Models (N=55)

Variable	Model			
	1	2	3	4
	B (SE)	B (SE)	B (SE)	B (SE)
Constant	68.30 (3.26)	65.47 (7.03)	67.13 (6.89)	65.36 (10.26)
Age	-0.27*** (0.07)	-0.31*** (0.08)	-0.28** (0.08)	-0.26** (0.09)
Income		-0.19 (0.75)	0.38 (0.78)	0.26 (0.84)
Education		0.74 (1.02)	0.18 (1.03)	-0.07 (1.17)
Sex (M vs. F)		-3.90 (2.99)	-3.47 (2.92)	-3.06 (3.20)
Race (white vs. non-white)		0.90 (2.81)	1.61 (2.76)	2.07 (3.04)
Marital status (married vs. other)			-4.53 (2.33)	-5.87* (2.74)
MOS-tangible				-0.08 (0.47)
MOS-affection				1.01 (0.90)
MOS-interaction				-0.33 (0.67)
MOS-emotional				-0.09 (0.33)
Model R square	.221	.266	.319	.339
R square change	.221	.045	.053	.019
P value for R square change	<.001	.560	.058	.863

* $p < .05$; ** $p < .01$, *** $p < .001$ *Theoretical Considerations*

Carstensen's Socioemotional Selectivity Theory may be helpful in interpreting these findings. This theory suggests that social preferences shift across the lifespan. Young adults are expansive in the way they approach the world, they are future-oriented and high information seeking as they learn how they fit within their respective environments. They may choose novel social partners and engage in interactions with many people in order to understand how the world works. "The theory is rooted in the functions of social contact and ...

posits that although the basic functions of interaction remain consistent across the life span, place in the life cycle influences the salience and effectiveness of specific functions" (Cartensen, 1992, p. 331). In early adulthood, new information is gained from interactions with others and much of what is learned may be novel. In social interaction people learn how to obtain help and gain information from others, and in this process of interaction they acquire and maintain their own self identity. As one ages and has more experience, interactions do not reveal as much new or novel information. As adults mature, self concept becomes more solidified and interaction with unfamiliar social partners may take more energy, with less being learned. "There is a reduced likelihood that interaction with casual social partners will be rewarding; yet, interaction with a select group of significant others becomes increasingly valuable" (Cartensen, 1992, p. 332). As individuals move across adulthood, Carstensen contends that adults grow more socially selective, reducing peripheral social contact in favor of close friends. Familiar others are one's central focus and source of comfort. When Carstensen (1995) asked who they would rather spend time with—a close friend/family member, a recent acquaintance, or the author of an interesting book—she found that young adults' choices were spread across all three. Older adults overwhelmingly chose the close friend.

Developmental theorists have likened this movement over the life course to convoy-building, first identified by Kahn and Antonucci (1980) and elaborated by Antonucci and Jackson (1987). The convoy-building model of social relations is based on a group of people moving through life together, deriving support, self definition, and continuity in the process. Cartensen contends that her research supports this convoy building process, as young adults search for and expand their number of social contacts and explore various relationships. As adults approach thirty, they may have identified a number of convoy members who become part of a lifelong support system, and they may begin discarding more superficial acquaintances or at least not paying as much emotional energy to these relationships. Similarly, as one ages, each decade will see the maximization of the convoy (a group of valued friends/relatives) and the relinquishing of less important

relationships (Carstensen, 1992). Essentially the convoy of close relationships does exactly what the MOS survey is attempting to capture—those friends/relations one feels at ease with and can talk with about anything on one's mind.

Socio-selectivity theory has focused on human relationships in terms of convoy building across the lifespan. Given the importance of companion animals in the lives of our study participants, we suggest that they are including their dogs as part of their convoy of close relationships and that it would be appropriate to be inclusive of human-animal relationships as part of the convoy. For respondents in this study, dogs were considered part of their family and they drew heavily upon them for social support in the areas of affection and interaction, regardless of age. Yet there are some types of social support that cannot be provided as easily by animal companions, and it appears that the younger dog walkers in our study may be vulnerable in some aspects of their support systems. It may be incumbent upon animal-helping professionals to be sensitive to the needs of their patients' owners in making appropriate referrals to human helping professionals.

If Socio-Selectivity Theory holds promise, perhaps younger adults in this study are still developing their convoys that will mature into more robust support systems in the future. Their current convoys are inclusive of dogs to which they are highly attached. It may also mean that older adults in the study have refined their convoys over time, honing in on those relationships that will yield tangible and emotional/information support as they age, but also maintaining close attachments to valued animal companions. In this study, dog owners have different numbers of people in their convoys, yet the number of close friends and relatives does not significantly vary by age. It is the perceived social support (particularly in the areas of tangible and emotional/information support) that varies by age. Perhaps this speaks to the difference between number of close friends/relatives and the quality of those same relationships when it comes to depending on others. "Closeness" may mean different things to different people, and the fact that perceived mental health is significantly related to numbers of close friends/relatives in our findings cannot be understated.

Assessing the Multidimensionality of Social Support

Our study participants overall reported a relatively high level of support. The majority of respondents reported sources of tangible support, affection, positive social interaction, and emotional/informational support most or all of the time. This is perhaps not surprising, given that our participants were an educated group of owners with relatively high incomes who could afford referral veterinary care. Interestingly, younger participants had significantly lower overall scores on the MOS, compared to older owners. The use of technology as a means of social support was not part of this study, but given the rapid change in social networking possibilities, it is possible that younger owners are more connected and rely more on social media than older owners. What bearing this has on social support is certainly worth pursuing in future research.

The MOS subscales of affectionate support and positive social interaction were not significantly different in terms of age, which is particularly interesting since affectionate and interactional support items are ones that could pertain to animal support and companionship as much as human support and interaction. For example, the affectionate subscale contains items such as showing love, hugging, and feeling wanted; whereas interaction includes having a good time, relaxing together, taking one's mind off things, and enjoying doing things together. When one looks at the items in these two categories, they are ones that an animal companion could fulfill. In fact, these items were closely related to those items on the LAPS with which almost everyone agreed.

There were two sections in the MOS that revealed where these age differences occurred: tangible support and emotional/informational support. Tangible support and emotional/informational support were lower for younger owners in these two categories. No matter how much their dogs mean to them, animals are not able to perform most of these activities. Under tangible support are items such as helping if the owner is confined to bed, taking them to the doctor, preparing meals, and helping with chores (instrumental activities). Even service or working dogs have their limitations in this regard. Emotional and informational support is more mixed in that dogs can certainly listen and can be close confidants, but it would not be

possible for them to give advice in a crisis or provide information or suggestions about how to deal with a difficult situation. Since the MOS combines emotional and informational into one subscale, this makes it difficult to fully assess how these dogs may be an incredible source of emotional support even if they are not able to provide information. Essentially, tangible support and some of the items under emotional/informational support contain those activities that are uniquely human and require instrumental intervention as well as human reason/advice giving. Certainly, one can confide in one's dog or share one's worries and fears, but garnering suggestions is just not possible. Similarly, a dog may not be "someone who understands your problems" in the same way a human being can (as stated on the MOS), even if all but 10 owners in the study agreed with the statement "my pet understands me." This points to the importance of perception. If owners perceive that their dogs are understanding them, then that is emotionally supportive. Understanding the person is not the same as understanding a problem. Thus, even though number of friends and relatives is positively related to perceived mental health, it does not follow that dogs may be particularly important for the mental health of young people with few friends and relatives because they cannot provide the forms of support that young people are more likely to lack. Of course, this assumes that family and friends are supportive, and in some cases this simply is not the situation, depending on how these relationships have evolved.

Implications for Helping Professionals

Our findings suggest a number of implications for helping professionals. While it is not surprising that all participants in this study are highly attached to their dogs, younger adults in this study are significantly more attached than older adults. Therefore, it may be important to clarify and carefully assess what types of social support can reasonably be expected from animal companions and what types may need to be provided by human companions. This means that practitioners may need to be sensitive to life course differences in needs for social support, recognizing that younger adults could be particularly vulnerable when it comes to having their social support needs met.

The concept of social support and the establishment of social networks have long appeared in the professional literature. For example, over 20 years ago Tracy and Whittaker (1990) introduced an assessment tool called the Social Network Map including friends, neighbors, formal services, household, other family, work/school, and clubs/organizations/church, and its multidimensionality is still very relevant. Given how important companion animals are in many people's lives, we suggest that animal relationships should be included in social network mapping in order to fully assess a person's social support network.

Attachment to animals could possibly be a boost to one's feelings of social support. Given the social support and perceived mental health needs of human beings at different stages of their lives, human helping professionals are expanding their roles to include veterinary medicine as more and more veterinarians recognize the intimate roles animals play in the family systems of their owners. These practitioners bring skills in intervening in family systems in which animals are seen as family members, offering social-psychological skills to address communication and interaction concerns, and even supporting the veterinarian's well-being in dealing with challenging family dynamics (Hafen, Rush, Reisbig, McDaniel, & White, 2007).

Risley-Curtiss and her colleagues (2006b) recommend that social workers routinely include questions during intake and assessment about clients' animals and what they mean to them. "Most families with companion animals regard them as family members, and affectionate relationships with pets can enhance health" (Risley-Curtiss et al., 2006a, p. 433). For the select group of participants in our study, their dogs are definitely considered part of their families. Our findings suggest that helping professionals, including veterinarians, may need to consider that their young adult owners of animals may be somewhat vulnerable in terms of certain types of social support until they have developed their convoys of support over time. Younger adult owners may draw even more heavily upon their animals as social supports in the areas of affectionate and interactional support, but in terms of emotional/informational and tangible support they may need assistance from human

helping professionals. In other words, dogs may be a highly valued part of one's social convoy, but knowing when to make an appropriate referral to a human service professional may be as important for younger adults whose support systems are in various stages of development, as it is for children and older adults who have long been recognized as vulnerable population groups.

Limitations

The sample in this paper is highly limited in that owners who bring their dogs to a tertiary clinic are a select group who can afford to seek specialized intervention. In addition, this is a highly educated, urban sample who participated in an exercise intervention program. We did not ask how many individuals were currently living in the household, which would be helpful to know as well in terms of the availability of social support. In terms of measurement, it should be noted that perceived mental health is self-reported and not a professional assessment of mental health status. Thus, these data cannot be generalized beyond the immediate group studied and additional work is needed to go beyond these pilot results.

Conclusion

The positive health effects of human-animal companionship and the benefits of having a companion to provide social support are well-known. Our study adds additional information describing how important a dog companion may be for a selected group of owners who bring their companion animal to a tertiary veterinary clinic, particularly for younger owners without close friends/relatives. It also points out the importance of including companion animals as part of the human social convoy, especially in terms of providing affectionate and interactional social support.

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Effects of Companion Animal Ownership among Canadian Street-involved Youth: A Qualitative Analysis

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In Canada, approximately 150,000 youth are homeless on any given night, and many have companion animals. Through a series of semi-structured interviews, this qualitative study explored the issues and effects of companion animal ownership among street-involved youth from the perspective of the youth themselves. "Pet before self" was the substantive theme, with first level sub-themes of "physical" and "emotional" effects. Previously unidentified findings include benefits of having a companion animal, such as creating structure and routine and decreasing use of drugs. Loss of the companion animal was a negative effect. Youth consistently reported making choices to stay with their animal regardless of liabilities for their own health or success. Service providers should understand and support the significant human-animal bond that can exist for these homeless youth.

Key words: *homeless, companion animals, street-involved, youth, young adults*

Approximately 150,000 youth in Canada are homeless on any given night (Public Health Agency of Canada, 2006), and this shows no sign of declining. The number of youth using Toronto shelter services increased by 16.2% between 2006 and 2009 (Toronto Shelter, Support & Housing Administration, 2010). Accurate homeless counts are difficult to achieve, as youth commonly "couch surf" (move from place to place), squat (stay in abandoned or unoccupied buildings), sleep rough outdoors, engage in prostitution or other activities in exchange for shelter, or use other forms of transient or marginal housing.

Many homeless people have companion animals. In a recent study on the transition of homeless individuals to stable housing in Toronto, Ontario, 8% of homeless and 11% of vulnerably housed individuals had companion animals (Stephen Hwang, electronic mail, January 15, 2010). Benefits of companion animal ownership among the homeless include increased social, emotional, and physical health. Liabilities include difficulty finding stable, animal-friendly housing for the human partner (Kidd & Kidd, 1994; Singer, Hart, & Zasloff, 1995). Dog ownership among homeless populations has been linked to decreased access to healthcare services (Taylor, Williams, & Gray, 2004).

Limited research specific to homeless youth and companion animal ownership has shown that companion animals play an important role, helping homeless youth cope with loneliness and depression, and providing a reason for making better life choices, such as avoiding incarceration to prevent separation from their animal (Rew, 2000).

The aim of this study was to explore the effects of companion animal ownership among street-involved youth from the perspective of the youth themselves, including the roles and relationships between the youth and their animals, the general provision of care for the animals, and needs and challenges that exist for homeless owners of companion animals.

Literature Review

In an early study, Kidd and Kidd (1994) investigated the roles of pets in the lives of the homeless. Of 52 adult homeless pet owners surveyed in San Francisco, 74% of the male

and 48% of the female participants identified their pets as their only source of companionship and love. Themes derived from a qualitative study of homeless women and their companion animals conducted in six urban centers in Canada demonstrated that animals provide companionship, unconditional acceptance, comfort, and a sense of responsibility (Labrecque & Walsh, 2011).

Bukowski & Buetow (2011) found that among homeless women in New Zealand, dog ownership not only provided companionship, but the dogs were commonly described as "family," and participants reported that they would continue to live outdoors if their dogs could not be housed with them. This is consistent with early work by Singer et al. (1995), who surveyed homeless pet owners in Sacramento regarding rehousing. Among the 66 surveyed, 93.3% of male and 96.4% of female respondents reported that they would refuse housing that did not include their animals.

Companion animals help homeless youth to cope with loneliness and depression and provide a positive and giving relationship that some youth have never experienced (Bender, Thompson, McManus, Lantry, & Flynn, 2007; Rew, 2000). Thompson, McManus, Lantry, Windsor, and Flynn (2006) conducted focus groups with 60 homeless youth in Texas. Participants with animals described feeding their animals before themselves and purposely seeking out pet-friendly services. They identified their animals as providing emotional support, love, safety, and motivation to take better care of themselves and "stay out of trouble."

The effects of encounters between homeless individuals who owned companion animals and the public were qualitatively explored by Irvine, Kahl, & Smith (2012). The majority of homeless companion animal owners interviewed were able to successfully "redefine" what constitutes responsible companion animal ownership and refute many of the public's negative comments, creating a positive sense of self-identity. These participants described this "redefining" as their ability to provide constant companionship and a freedom that few domiciled companion animals experience, challenging the social convention that one needs to be housed in order to provide a good quality of life for a companion animal.

Past research paints a clear picture of the benefits associated with companion animal ownership among the homeless. However, personal observations gained as a veterinarian working with homeless youth and their companion animals show that the earlier literature fails to consider the drawbacks associated with ownership of companion animals by the homeless. This study will argue that in order to achieve a more complete understanding of the role that companion animals play in the lives of homeless youth, both the liabilities and benefits of owning an animal must be explored.

Methods

The study was qualitative in design, exploring the lived experience of homeless youth and their companion animals. Ethical clearance from the University of Guelph Research Ethics Board was obtained. Informed consent either in writing or verbally was obtained from the participants. According to the Ethics Review Board, if participants chose not to sign the consent form but still wished to be part of the study, verbal consent and acknowledgment was sufficient. All interviews were conducted by the first author.

Within this paper, the terms 'homeless' and 'street-involved' are used interchangeably. For the purposes of this study, a youth was defined as between the ages of 16 and 24. In Canada, 'youth' are generally considered to be 16-24 years of age, the legal age in which a youth can leave home without parental consent (16 years) to the age at which individuals are generally required to seek shelter and other support services for adults (25 years).

Interviews

Semi-structured individual interviews were conducted using an interview guide that began with a broad request to the participant to "tell me about yourself and your current situation," followed by "tell me about your pet and the relationship you have with him/her." Further questions elicited data on the role the animal played in the youths' lives, the effects or differences that the companion animal had made in their life, concerns as an animal owner, how they were able to provide for their animal, and the types of services or programs helpful

for youth with companion animals. Names of participants and their animals in this report are pseudonyms assigned by the first author. Hard brackets within quotations either de-identify location or clarify context or meaning of the narrative.

Sample

Purposive sampling was used to obtain participants from three urban drop-in centers, one in Ottawa and two in Toronto, Ontario. Street-involved youth who owned companion animals were recruited by handing out business cards with time and date of possible interview times or by sending cards to drop-in centers, and by direct recruitment by the researcher while at the drop-in center. Youth were made aware of the purpose of the study and told that they would receive \$20 for participation.

This sampling strategy was selected to achieve a better understanding about the role and meaning that companion animals play in the lives of street-involved youth. In keeping with the interpretive social scientific tradition (cf. Weber, 1978), the purpose of this research was not, in a conclusive way, to provide an analysis of the total range of views and experiences street youth have about their companion animals, but to learn more about the impact and meaning that companion animal ownership plays in the lives of homeless youth.

Sample Description

This purposeful sample consisted of 10 street-involved youth (seven male and three female), who owned or previously owned a companion animal while living on the street. Participants were 18 to 24 years of age, with one male 18 years of age, one female 20 years of age, one male 21 years of age, one male and one female 23 years of age, and five males 24 years of age. Eight of the ten participants (6 male; 2 female) currently owned dogs and two (2 male) had owned dogs previously while on the street, but at the time of the study were cat owners.

At the time of the interviews, two male participants were living on the street, one female was couch-surfing, four (all male) were transiently or vulnerably housed (including squatting, staying with friends or family, or couch-surfing), and three (1 male; 2 female) described themselves as in stable housing.

Data Analysis

All interviews were audio-taped and transcribed verbatim. Accuracy of the transcriptions was ensured by listening to the audio-recording while reading the transcript, and errors in transcription were corrected. Both manifest and latent content analyses (Holsti, 1969; Patton, 1990) were used to analyze the data. Manifest content was obtained from the direct answering of questions from the interview guide, while latent content was obtained from deriving interpreted meanings of the responses to these questions. First-level coding of data was initiated by reading the interviews several times to identify trends and patterns. Through an iterative analytical process of repeated readings of the text, substantive themes emerged and themes were assigned key words or phrases to describe the effects of companion animal ownership on street-involved youth through the participant's experiences and perceptions. As analysis progressed, related sub-themes were grouped into broader themes, where the experiences and perceptions were grouped into sub-themes and each was determined to be a benefit or a liability.

Limitations

Several limitations need to be noted. Given the nature of the sample and its size, generalizations about these findings cannot be made. The population of street-involved youth is heterogeneous in terms of demographic, descriptive, and experience-based factors and transiency. While efforts were made to reduce fear and distrust among the participants, being vulnerable and perhaps having had negative experiences with adults introduced the potential for respondent bias.

The attachment participants had to their animals may have resulted in a social desirability bias. Youth may have feared that negative portrayals of companion animals might suggest that they do not adequately care about their companion animal or that there may be some consequence if they described socially unacceptable or criminal behavior, regardless of the guidelines set forth in the informed consent form. Social desirability bias may also be a factor with sensitive topics such as drug use and criminal activity, and with a possible general distrust by youth of unfamiliar adults (Ulager et al., 2005).

Results

Results are presented as themes and sub-themes identified from the narratives that constitute the data for this study. The substantive theme that emerged from the data was one of "pet before self," in which the needs of the animal were placed ahead of the owner's needs. First and second level sub-themes of "physical" and "emotional" effects, and "benefits" and "liabilities" respectively, were then further developed.

Pet before self. "Pet before self" was the overarching theme and manifested itself in many ways. First, youth described foregoing opportunities for their own health and success that did not include their companion animal. This effect was seen prominently in the physical sub-themes of housing or shelter, employment, and income. Second, the participants appeared to accept the added responsibilities, challenges, and stressors that came with having a companion animal, as demonstrated in the emotional effects of companion animal ownership, despite the often negative impact on their already difficult lives. Finally, youth who described having a companion animal as a willing responsibility accepted the limitations on their freedom or activities as necessary, as something they "have to do" for their companion animal.

Physical Effects

These findings include the physical effects that companion animal ownership have on homeless youth seeking, finding, or maintaining shelter or housing; income generation; effects on their freedom and activities; and use of drugs and number of arrests.

Housing. The physical effect of having companion animals on shelter and housing emerged in various ways. Three male participants described sleeping on the street to be with their animal. The decision to not seek shelter services was multifactorial. Often it was because of a "no pet" shelter policy, but other considerations included a general dislike of shelters (e.g., lack of personal space or privacy) and a preference to be outside. Youth may elect to sleep outside regardless of companion animal ownership. However, two youth described how it was harder for both them and their animals during times of inclement weather when they would have sought

"pet-friendly" shelter if available, and reported that their health has been affected by having to sleep outside, as Sam related:

I was stuck sleeping outside with Mackenzie [dog]. I didn't mind it. I prefer that than living in the shelters here in this city, but on days like this where it's horrible out and I've come down with this chronic cough, all that garbage from sleeping outside in this weather, but other than that it was good 'cause it kept Mackenzie happy cause of the breed he was. The Husky/Wolf that he is, he loved it outside. He didn't care.

Similarly, three males described how having a dog made it more difficult to find stable housing. Michael identified the breed of the dog he owned as decreasing his ability to find housing because legislation in Ontario has singled out particular breeds as dangerous: "It made it very difficult [finding housing with a dog] 'cause it was a pit bull ... I definitely stayed in the streets because of my dog."

Another male described how he, his mother, and brother, all unemployed and homeless, were forced to leave his grandmother's apartment because of their dog. Relinquishment of the family dog, who, he explained "had helped him through some horrible things," was never considered, even though it would have been easier for his family to find housing.

In contrast, the reason and motivation described by Jeff (housed at the time of interview) for finding stable housing was for his dog, not himself: "I love him and I get a place for him. Really, like, if it wasn't for him, I'd be on the streets." Additionally, two young women, one who was couch-surfing and one who was housed at the time of interview, reported that they tried to remain sheltered or housed for their dogs. Furthermore, if they themselves had to stay on the streets, they described how they would not allow their companion animal to do so: "If I had to stay on the street, I would definitely give my dogs to somebody else who could take care of them. I wouldn't want to do that. I wouldn't want to put my dogs in those situations."

Income. Five male participants reported that having a companion animal impaired their ability to find and maintain

stable employment. With no housing where they could leave their companion animal or reliable and safe animal care, their ability to find and/or maintain employment was restricted. Sean explained:

When you have a dog and you're living on the street, you can't go to work because you have to look after the dog. ... Trying to find a friend that's actually constant to look after your dog while you're at work, I mean, when you're living on the streets you can't find anybody that's actually reliable. ... I found one guy that lasted a week and then he just disappeared and I was never able to find him for my next shift. I ended up losing my job...

Almost half of the participants (3 female; 1 male) perceived that the use of companion animals for panhandling was exploitation of the animal. However, two male participants, who engage in panhandling for income generation, acknowledged that companion animals often improved earnings, particularly when their animal was younger. Brian shared:

I use my dog because he's my dog. He goes everywhere I go. So if I'm panhandling and sitting there ... he's sitting there too ... while he was between 16 weeks and 6 months old I could almost guarantee \$100 day every day ... I'd normally have 2 or 3 panhandlers before me and I could still make a \$100 every day.

Drug use & arrests. When the youth were asked an open-ended question on whether having a companion animal made any difference or created change in their lives, four of seven male youth reported that their use of drugs decreased with dog ownership. They reported either reducing the amount of drugs or alcohol consumed and level of intoxication experienced, or a shift in the type of drugs consumed (e.g., away from "hard" drugs). Two of these youth also reported that they have avoided arrest and incarceration since having a companion animal. Sam explained:

Before, when I wasn't a pet owner, my life was one of like, try to make myself more liking the city, meaning

the drugs, alcohol, all the bad things, the crime. Like I was in and out of court, I was in and out of jail, like life didn't matter to me. Once I got Mackenzie I settled down and my life actually had meaning to it. Like I actually quit the drugs for a while, I haven't gone back to jail yet. Like it's been at least 2 years since I've actually gone to jail. I don't do heavy drugs anymore; I still smoke weed, but like, I don't do heavy drugs anymore.

Two males described their own experiences of having their dogs removed from them, one during his arrest and the other due to his incarceration. With no social support to help retrieve and care for the dogs, both dogs were euthanized at the municipal animal shelter. Two other youth described similar experiences happening to peers and their pets. These risks of removal and/or euthanasia of the companion animal were described by these youth as being reasons to avoid arrest and incarceration and/or to have support of friends or family who can take care of the companion animal if those situations arise.

Two other males had been involved with gangs while on the street with their companion animals, and while they discussed their involvement with the dealing of drugs, they didn't describe personal drug use. They reported no difference in their participation in illegal activities, such as drug dealing, because of having a companion animal. The female youths did not discuss drug use or involvement in illegal activity.

Activities. Another physical effect of having companion animals included the impact on their freedom to participate in activities. Two males reported that having a companion animal restricted them from participating in activities that were not "pet-friendly," such as visiting entertainment venues or other establishments.

Three participants (2 male; 1 female) described how they were more likely to return to the same place where they were sleeping or living than before they had a companion animal. They also return more regularly to take the dog out to eliminate, feed, or perform some other aspect of care for the companion animal. Jeff explained, "There are things I gotta do ... I gotta take care of my dog. I love him ... I don't sleep out and never come back to the place I originally lived."

Emotional Effects

The emotional effects of having companion animals included added stressors arising from such ownership, the experiences of a human-animal relationship, and the roles that companion animals played in their lives.

Stressors. Seven of the ten youth interviewed described their concerns as companion animal owners, expressing worry about maintaining the health of their animal and their ability to provide food and veterinary care if their companion animal became ill or injured. Lack of affordable veterinary care and worry about losing their companion animal were the primary stressors. Karen shared:

It's really hard taking care of them because I can't always get them food ... I'm worried that something might happen to them. They might be taken away from me, which would probably be the worst thing that ever happened and it's hard ... [what would be helpful is] having anywhere I can stay with my pets and they can help provide food, water, and health care for my pets.

Seven youth related that experiencing the loss of a companion animal or worry about the loss of their companion animal had a significant effect on their lives. An actual loss or fear of loss could be in the form of death or an animal stolen or lost, as well as the animal being removed by police or animal control officers or as a result of their own arrest or incarceration. Depression and change in behavior were described by two youth following the death of their companion animals, demonstrating the effect that such a loss can have on the emotional health of these youth. Michael shared:

I had a dog on the street in [city name] ... he got ran over by a car while I was sleeping ... I didn't get any more dogs after that ... I missed him a lot ... he was a good dog ... I didn't want to have that loss again because it was so hard ... I got depressed after.

Another stressor identified by one male was the negative perception that the general public had about being homeless with a companion animal. He reported that individuals passing by while he was panhandling with his dog made

comments suggesting he could not adequately care for his dog or that he shouldn't have a dog if he couldn't even take care of himself.

Relationship and role. All the participating youth described their companion animals as a source of comfort and as non-judgmental, consistent companions in whom they could confide. For example, Sam explained:

My relationship with Mackenzie ... is the best I ever had ... having my dog around I find it more comforting than having my girlfriend around ... 'cause he always knows when I'm feeling bad ... I don't always have to sit around explaining to him what I mean cause he already seems to know ... having Mackenzie is easy 'cause I can talk about my problems to him and he doesn't judge me.

Half of the youth interviewed used the word "love" when they described their relationship with their companion animal. In David's words, "I love her. She's the best pet ever ... She is the best thing I have and I hope that she stays healthy forever."

Companion animals also played diverse roles. Six of the ten youth interviewed described the relationship with their companion animal as child-like. For Sam, his dog "was my kid ... I treated him like he was my kid ... he was a big part of the family I was developing."

Six also described their companion animal as their "best friend," and "always there." Ryan eloquently expressed that one of the many roles of his dog was a means of allowing people to see his "good side:"

He was my best friend. Loyal. Companion, when no one else was there. He was my shadow. Always there ... that was my way of displaying my good side, you know? By having that dog around me, people could see a better side of me than they usually would.

"Interdependence" emerged as important for two youth (1 male; 1 female) who described their relationship with their animal as reliant on one another to meet each other's needs. This relationship was seen as a positive effect, in that they felt

needed and depended upon, and the companion animal was also always there for them. Sam described this: "It was sort of I needed him there at all times or he needed me there at all times ... because we lived so long together, our connection was beyond what any other pet-owner's connection with their pets would be." Nonetheless, Sam also described how this interdependence impaired his ability to find employment, as his dog became anxious when left with anyone else.

Discussion

These findings support previous studies demonstrating the emotional and social support having a companion animal provides for the homeless (Kidd & Kidd, 1994; Labrecque & Walsh, 2011; Rew, 2000). Themes generated on the physical effect on housing for youth with animals, and their decision to forego housing or shelter in order to stay with their animals, are consistent with those of Bukowski & Buetow (2011) and Singer et al. (1995). Companion animals appear to serve as a vehicle for youth to learn about unconditional love, trust, and constancy in a relationship. With such strength of attachment, it is not surprising that youth consistently chose to forego opportunities for shelter, housing, and employment in order to be with their companion animals. Although these choices may be to the detriment of their own health and success in getting off the street, for some youth this "Pet before self" theme may be a driver for reducing their use of drugs and hence number of arrests, as well as beneficially affect their daily activities by creating structure and routine. Other research examining the strengths of homeless youth supported these findings that companion animals provide a source of stability, responsibility, and pride (Bender et al., 2007).

Most commonly recognized are the effects of having companion animals on sheltering, housing, and employment. The findings of this study show that indirect benefits may include motivation to seek and/or maintain housing, a finding that has not appeared in the previous research literature. However, having a companion animal may be a liability and barrier to short- or long-term housing when animals are not allowed (Singer et al., 1995). As most shelters in Canada have a "no

pet" policy, youth have few alternatives except to sleep rough in the street or couch surf to stay with their companion animal. (An internet search conducted on October 4, 2011, using key words: homeless, shelter, pet-friendly, pets, welcome, Canada resulted in 6 hits, some of which accept small pets only or seasonally accept pets.) Consideration of "pet-friendly" sheltering services is needed.

Due to a lack of affordable housing in urban centers, many cities, including New York City and Toronto, are adopting the "housing first" model (Power, 2008), whereby housing the individual is the first priority, followed by provision of additional services, such as mental health support or addictions counseling. However, for programs to be successful in the population of companion animal owners, this study suggests that housing must accept companion animals, including large dogs.

Despite the limited sample size, gender differences appeared to be a factor in this study in the approach to housing. Our findings support previous reports indicating that homeless males outnumber females by two to one, with females more likely to seek shelter or housing due to their vulnerability on the street (Hagan & McCarthy, 1997; O'Grady & Gaetz, 2009).

The homeless youth population, in general, is largely excluded from earning income in the formal economy. In order to survive, homeless youth are left to make money via short-term or odd jobs, panhandling, prostitution, petty crime, and drug dealing (Gaetz & O'Grady, 2002). In addition, less than 15% of homeless youth receive social assistance (Gaetz & O'Grady, 2002). This study suggests that within the formal economy, paid employment is even more challenging to find and maintain for homeless youth who have companion animals. Panhandling may be one of the few methods of income generation that allows youth to be with their animals. However, if the goal of society is for youth to enter the more formal economic arena, then an understanding and acceptance of the relationships that many of these youth have with their companion animals is required, and support in the form of consistent animal care may be necessary.

Regardless of the liabilities of companion animal ownership for street-involved youth, youth participants described

placing the needs of their companion animals before themselves. These effects of the human–animal bond support findings that allowing space for companion animals can improve service engagement by homeless youth (Rew, 2000). Programs could consider allowing well-behaved companion animals into services with their owners, or providing accommodation in a safe place while their owners access services. Agencies could consider a kennel or companion animal boarding area in the design plans for new facilities. Incorporating animals into shelter services can provide significant benefits to the residents (Labrecque & Walsh, 2011). Phillips (2012) founded and developed the Sheltering Animals and Families Together (SAF-T)TM program that provides a start-up guide for organizations wishing to create this service. Developed for women’s shelters, this resource is being actualized in an increasing number of domestic shelters providing housing for pets with their families, and could be broadly used across a range of other services. Ideally, companion animal day-boarding or “dog daycare” could be provided while their owners attend job interviews, school, or employment opportunities. Other ways to support youth include provision of pet food and supplies, and accessible veterinary care. There are a few community programs scattered across Canada that help provide veterinary care for companion animals belonging to homeless youth, including a program run by faculty and students from the University of Montreal’s Faculty of Veterinary Medicine, and Community Veterinary Outreach, a veterinary-based registered charity that provides pro bono preventive veterinary care, education, food and supplies for animals of those who are homeless, vulnerably-housed, and street-involved, including youth, in several communities in Ontario. Specific areas of education for youth should include an understanding of the rights of tenants, specifically referring to companion animals; specific breed legislation (if applicable); and consequences of removal of a companion animal by local animal control or by-law services in the event of charges of animal neglect or owner arrest.

In this study, decreased drug use was a consistent finding among the male youth who owned companion animals. This finding is significant in that the majority of criminal offences by street-involved youth are addiction driven (Pernanen,

Cousineau, Brochu, & Sun, 2002; Public Health Agency of Canada, 2006). With crimes monetarily supporting addiction, it is no surprise that a reduction in arrests follows the decrease in drug use. Insights on drug use among animal owners in the homeless population have been inconsistent. Baker (2001) found that more non-dog-owners took drugs than did owners, while a study conducted by Taylor et al. (2004) found no statistical difference in drug use between owners and non-owners.

Another significant finding is the negative impact on the emotional health of youth who lose a companion animal. A study of adolescent animal-bonding and bereavement demonstrated that highly bonded adolescents experienced more intense grief after losing a companion animal than did those less bonded to their companion animals, and that the degree of bonding and intensity of bereavement is greater for girls than for boys (Brown, 1996). Our findings support a need for counselling for bereavement of companion animals. Among highly attached companion animal owners, complicated grief has been found to occur in 20-30% of the population with loss of their animals (Adams, Bonnett, & Meek, 2000; Adrian, Deliramich, & Frueh, 2009). Homeless youth who lose animals and who often lack differentiated coping strategies and support (Kidd & Carroll, 2007; Unger, Kipke, Simon, & Johnson, 1998) may be at higher risk of experiencing significant grief and/or depression. Crisis intervention may be required. In addition, the loss of their companion animal may mean loss of the structure and responsibilities that may have been keeping them from self-destructive activities.

While companion animal ownership among the street-involved presents obvious issues with ability to obtain needs such as shelter and food for themselves, the youth in this study described making choices to keep and stay with their companion animals, despite the added stresses entailed. The findings of this study imply that companion animals may have, at some level, a protective role against the two leading causes of death among street-involved youth in Canada, i.e., suicide and illicit drug intoxication (Roy et al., 2004; Unger et al., 1998). It is worthwhile to consider how support of the human-animal relationship could reduce deaths in this population.

Future Research

The protective effect of companion animals against suicide has been described in women in abusive situations (Fitzgerald, 2007). The possibility of similar protective effects in other socially marginalized populations, such as the homeless, warrants further investigation. Additionally, since data saturation may not have been achieved in this study, in that consistent repetition of data from female and gang-involved youth was not achieved, need for further study is indicated. The two male gang-related youth interviewed did not discuss personal use of drugs, but were open regarding their activity in dealing drugs. Gang culture may demonstrate unique effects of companion animal ownership, providing more peer social support and improving their ability to care for the companion animal. Alternatively, gang dogs may be used for fighting, particularly dogs bred for that purpose, and the choice in dog breeds may be associated with status and/or function, such as for intimidation and protection. The two previously gang-involved youth interviewed had both owned pit-bulls, a breed now banned by Ontario provincial legislation. Therefore, the role(s) of the companion animal and the relationship with it may be quite different in gang-involved and other homeless youth. Further investigation is warranted in this unique population.

Information on drug use or criminal activity was not elicited from the three female participants. The reason for this may be multi-factorial. Females use fewer substances and are significantly less likely to be involved in drug dealing than males (Kirst, Erickson, & Strike, 2009). Additionally, homeless female youth purposely self-censor information provided to health care workers, as well as showing sensitivity to other areas of discussion, such as prostitution (Ensign & Panke, 2002). Further investigation into companion animal ownership among female street-involved youth is also warranted.

Conclusion

While the liabilities for street-involved youth having companion animals are clear, previously unrecognized benefits, i.e., decreasing drug use and number of arrests, were notable among the youth interviewed. To engage in the structure and

responsibility of taking care of a living being other than themselves is purposeful to moving forward and leading a healthier lifestyle. Homeless youth, who may experience lower levels of self-worth (Votta & Farrell, 2009), may seek out shelter and subsistence for their animal, leading to an improved view of self and healthier lifestyle for themselves. To assist these youth, services and programs may need to accept companion animals and understand the strength of these human-animal relationships and the benefits companion animal ownership can offer.

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Staff Views on the Involvement of Animals in Care Home Life: An Exploratory Study

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This qualitative study examined the views of one hundred and eight care staff working in fifteen care homes in the United Kingdom about the involvement of animals in the care practices of the home. The perceived benefits and difficulties of delivering person-centered and psychosocial care, including the involvement of animals were explored. The findings describe the main themes related to animal involvement elicited from staff. These include the benefits to residents' well-being and the varying challenges that visiting and residential animals pose. The implications for practice are discussed and the need for clearer information for care home teams is identified.

Key words: *care home, staff, animals, pets, person-centered care*

There is a substantial worldwide increase in the number of people over the age of 60 years and this growth is predicted to continue to increase at a rate of about 2% a year, resulting in 2 billion people in this older age group by 2050 (United Nations, 2009). Ageing is associated with increasing physical and mental health care needs; for example, an estimated 35 million people worldwide are estimated to currently have dementia (World Health Organization, 2012). This increasing physical and mental frailty has increased the importance of care home settings in supporting people's physical, psychological and social needs. In the United Kingdom (UK) the number of older people living in care homes is estimated to rise to 444,000 by 2017 (Laing & Buisson, 2007), with an estimated 250,000 of residents experiencing dementia (Knapp et al., 2007a). The

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model of person-centered care is a key concept of care for older people that embraces the principles and practices of self-determination around choice and control, inclusion and empowerment (Kitwood, 1997). However, the high level of unmet need and the provision of care to meet physical and mental health needs are matters for serious concern both in the UK (Bowers et al., 2009; National Audit Office Report, 2007) and internationally (Knapp, Comas-Herrera, Somani, & Banerjee, 2007b). There is growing evidence that increased social interaction and meaningful activities can improve both psychological and behavioural outcomes for older people—particularly those with dementia (Alzheimer's Society, 2007). One strategy to achieve this is through interaction with animals; preliminary evidence suggests that this can be effective (Marx et al., 2010). The purpose of this study was to identify the perceptions of care home staff in the UK of the benefits and experience of including companion animals in care home life as a means of addressing person-centered practice and their perceptions of the barriers to doing so.

The Value of Companion Animals to Older People

The benefits of companion animals for human health are well established in terms of both physical (Freidmann, Thomas, & Eddy, 2000), psychological and social outcomes (Dawson & Campbell, 2005a). In the general population, cat and dog owners report that they consider these animals as family members who provide them with emotional support, unconditional love and companionship (Risley-Curtiss, Holley, & Wolf, 2006). In the UK, an inquiry into 'Mental Health and Well-Being in Later Life' (Age Concern and Mental Health Foundation, 2006) identified having animals as one of the important factors promoting well-being in older people. The estimates of animal ownership amongst older people in the UK varies, with studies suggesting ranges between a fifth and a third of the population (Murray, Browne, Roberts, Whitmarsh, Gruffydd-Jones, 2010; Westgarth et al., 2007). The reported proportions vary depending on the methodology of the studies, age categories reported and species of animal being investigated. However, all suggest animal owners are

significant proportion of the population and it is therefore surprising that the importance of animal ownership has not been systematically addressed by the care home sector.

Psychological and social benefits can be summarized as including long term companionship and a sense of feeling needed and loved, as well as practical care tasks that motivate people to engage in activities (Baun, Johnson, & McCabe, 2001; Dawson & Campbell, 2005b; Keil, 1998). Companion animals may be linked with memories of a deceased spouse, absent family members, or special personal memories (McNicholas & Murray, 2005) and thus have a role as an attachment figure providing an ongoing sense of familiarity and security for residents (Keil, 1998). Having animals is also associated with better adjustment to major stressful life events such as spousal bereavement and coping with major health problems in later life (McNicholas & Collis, 2006). The loss of a companion animal can provoke reactions similar to those more commonly associated with the bereavement of a human relationship, the reactions to loss being proportionate to the importance and centrality of the animal to a person's life. The effects can include depression, disturbances to patterns of sleeping and eating, and onset of physical illnesses (Dawson & Campbell, 2005a; McNicholas & Collis, 1995). Despite the body of literature indicating that companion animals provide many of the emotional and psychological benefits associated with close human relationships (Cohen, 2002), there is limited provision for people to take their companion animals with them when they move into care home settings (Anchor Housing Trust, 1998; McNicholas, 2008).

Therapeutic Benefits

Animals introduced into nursing homes as home companions or as regular visitors have been shown to have positive effects, including reducing blood pressure, agitation, strain, tension and loneliness (Churchill, Safaoui, McCabe, & Baun, 1999). These forms of social contact have also proven beneficial in the treatment of behaviour problems in people with dementia (Zisselman, Rovner, Shmueli, & Ferrie, 1996). For example, the presence of a dog has been shown to decrease agitation and social isolation in people with Alzheimer's Disease (McCabe,

Baun, Speich, & Agrawal, 2002; Richeson, 2003; Sellers, 2006). It can also lead to greater alertness, increased non-verbal communication and interaction (Batson, McCabe, Baun, & Wilson, 1998; Libin & Cohen-Mansfield, 2004), improved engagement (Marx et al., 2010) and improved night time sleep (Toyama, 2007). Over time, interaction with a companion animal by people with Alzheimer's Disease can lead to fewer episodes of verbal aggression and anxiety (Fritz, Farver, Hart, & Kass, 1996). A meta-analysis indicated that Animal Assisted Therapy (AAT) is associated with moderate effect sizes in improving outcomes for behavioural problems, emotional well being and medical difficulties (Nimer & Lundahl, 2007). Subsequent reviews of the literature that specifically focus on older adults, show that the most frequently reported benefits are increased social behaviour and decreased agitation (Filan & Llewellyn-Jones, 2006; Perkins, Bartlett, Travers, & Rand, 2008). Even the use of a fish tank in a dining area has been shown to reduce aggression and enhance the nutritional intake of care home residents with dementia (Edwards, 2004).

Opportunities for Interactions with Animals in Care Homes

In addition to the benefits of people having their own animals per se, the positive effect of interactions with animals has been well documented as outlined above. Some care homes have recognised these opportunities and have responded by providing communal animals for the home or allowing animals to visit residents (Baun & Johnson, 2010; Delta Society, 2003). Visiting animals may be companion animals of staff or family members or may be provided by invited programmes from accredited animal organisations such as Pets as Therapy (PAT) or Therapets in the UK and Pet Partners (formerly the Delta Society) in the USA, for example. There is also an increasing awareness of the benefits of the natural environment beyond animals. An example is the Eden Alternative (Thomas, 1996), which was developed as a philosophical and practical way to change the culture of long-term care facilities and reduce boredom, helplessness and loneliness of residents by systematically introducing animals, plants and children into

the care environment. Evaluation results have been mixed and, although qualitative improvements are reported, quantitative analysis does not show consistent improvements in cognition, immune or physical measures, functional status, survival or cost (Thoesen-Coleman et al., 2002). There may be a range of difficulties in implementing a whole system programme within a home, which are helpfully identified in a review of a three-year implementation of an Eden project (Sampsell, 2003). This review also identifies some positive outcomes of engagement and communication for residents and between staff groups.

Interest has also grown in engaging indirectly with animals such as birds, hedgehogs and squirrels, in their natural state, to provide visual interest and stimulation (Gilleard & Marshall, 2012). Farm animals and green-care farming schemes have also been developed for people with dementia in recent years to provide pleasure and meaningful work opportunities as well as links to seasonally-related activities and events (de Bruin, Oosting, Van der Zijpp, Ender-Slegers, & Schols, 2010).

Commonly Reported Concerns

Care homes which actively promote interaction with animals are not widespread in the UK. For example, a Scottish report on care homes entitled "Remember I'm still me" (Care Commission and Mental Welfare Commission, 2009) highlighted that about half of all residents never went outside their care home or had opportunity to interact with the natural environment—including animals—which is an almost everyday opportunity for the general population. There has been limited investigation into why this is the case and limited understanding of the reasons for this. One study by McNicholas (2008) of a mixture of residential and sheltered housing facilities, animal shelters, and veterinary practices suggested that the most common concerns about involving animals in the residential and sheltered housing care settings were about health and safety—disease transmission from animals to people, concern about allergies and the potential for accidents, such as falling over animals or bites and scratches. McNicholas also reported that some facilities expressed concern about how to introduce new animals and a lack of knowledge about animal suitability for the setting.

Earlier qualitative work by Fossey and Barrett (2006) in an acute mental health setting for older people explored staff and patients' views on the involvement of animals in mental health care provided on six acute mental health wards. The findings illustrated that the majority of both older patients, with and without dementia, and the staff caring for them supported the involvement of a diverse range of animals on the wards. The concerns which were expressed had two main themes. First, the impact animals might have on others on the wards who didn't like animals, rather than interviewees themselves. Second, the potential additional work for staff in meeting the welfare needs of the animals involved. These two studies involve diverse care settings and reveal a number of positive views and also concerns which may be applicable to long-term care homes. However, there is a lack of published enquiry about staff's perceptions of the inclusion of animals in care homes specifically, and whether the views and experience of staff are similar to those in the other settings is unknown.

Study Purpose

This exploratory study focused specifically on the perception of staff working in care homes in the UK, with a remit of providing a home for life in a group setting for people with a range of physical, mental and cognitive needs. The issues in this setting may be similar to other care contexts, but may also present some specific challenges, such as enabling choice for long-term residents residing in their homes, rather than those in short-term treatment settings. This staff group is predominantly without formal professional care qualifications and deliver individual care to residents based on care plans developed by qualified nursing staff (Bowers, 2008; Korczyk, 2004). Given the potential benefits of involving animals in these settings and incorporating them into person-centered care plans, the aims of this study were: (a) to identify the perceived advantages of involving animals in the life of the care home; (b) to identify staff concerns regarding the inclusion of animals; (c) to identify factors that facilitate their presence; and (d) to identify barriers to their inclusion. Improving our understanding of the pertinent issues for care staff may enable researchers and practitioners to develop more tailored guidance and support for care staff involved in this approach.

Method

Participants and Data Collection

Focus groups were conducted with care home staff as part of a wider National Institute of Health Research (NIHR) funded study aiming to develop and evaluate a psychosocial intervention for people with dementia in care homes. Participants in the focus groups were asked to discuss their work with residents, perceptions of residents' quality of life, and their attitudes toward, and experiences of, social activities and pleasant events within the home. This incorporated an in-depth discussion of the perceived advantages and disadvantages of involving animals in the everyday life of the care home.

A total of fifteen focus groups were conducted with 108 members of care home staff (see Tables 1 & 2). The fifteen care homes in the study varied in location, provider type and registered care categories and were typical of the ethnic diversity of staff employed in the UK (Luff, Ferreira, & Meyer, 2011), allowing a range of attitudes and experiences to be explored. Of the fifteen care homes, seven were located in Oxfordshire and Buckinghamshire and eight were located in Greater London. Half of the locations were in a large city, and the others were equally divided between small provincial towns and rural locations. Three of the providers were government-funded local authorities, nine of the providers were private care companies and three of the providers were voluntary organizations/charities in the "not-for-profit" sector. Purposive sampling was conducted in consultation with the care home managers to identify care staff with a range of professional roles, pay grades, and length of employment within the care homes. Invitation letters including information about the focus group were distributed to potential participants and, wherever possible, the researcher met with staff to explain the purpose of and arrangements for the focus group discussion. The invitation letter included the researcher's contact details, and potential participants were encouraged to contact the researcher if they had any queries or would like to discuss the study further. Managers were then asked to collect a list within an agreed time frame of staff members who were willing to take part. The average group size across care homes was seven, although this ranged from three to sixteen. Careful consideration was given

to how the focus group could be scheduled in a way that was likely to maximize attendance and minimize any disruption to the home. However, staffing numbers and time pressures within the home occasionally placed limits on the number of individuals able to participate. Each focus group discussion was conducted within the care home and lasted approximately one hour.

Table 1. Care Home / Participant Characteristics

Characteristics	n (%)
<i>Care home provider</i>	
Local authority	3 (20%)
Private care company	9 (60%)
Voluntary organisations / charities	3 (20%)
<i>Location of care home</i>	
Greater London	8 (53%)
Oxfordshire / Buckinghamshire	7 (47%)
<i>Participants per professional group</i>	
Activities co-ordinator	11 (10%)
Care assistant / support worker	51 (47%)
Senior care assistant / senior support worker	23 (21%)
Registered General Nurse	6 (6%)
Deputy Manager	5 (5%)
Manager	2 (2%)
Other	10 (9%)

Focus groups were considered appropriate as they stimulate discussion and involve group processes that can help people to explore and clarify their views. We recognize the risk of less dominant members of staff feeling inhibited in a group discussion, yet we were keen to gain insight into the dynamics and decision making processes of the team (Kitzinger, 1995). Efforts were made to encourage participation across the group and to challenge apparent areas of consensus. The initial topic guide was devised by the authors, one who is an experienced qualitative researcher and the other who is a clinical psychologist with training and experience in animal-assisted interventions. The guide focused on the perceived benefits

and difficulties associated with animals living at or visiting the care home. Some of the topic questions relating to companion animals are shown in the Addendum. The groups drew upon past and present experiences of a wide range of animals, including dogs, cats, birds, rabbits, fish, and farmyard animals. Data collection became progressively focussed, and emerging themes were tested out in subsequent discussion groups, e.g., the pleasure that staff derived from bringing their own animals into the care home (Willig, 2001). The focus groups were audio recorded and transcribed verbatim.

Table 2. Care home Staff Ethnicity and First Language

Care home	First language (%)		Ethnicity (%)				
	English	Other	Asian	African	Caribbean	White	Other
1	85	15	4	2	0	95	0
2	85	15	12	3	0	85	0
3	50	50	11	2	2	53	32
4	85	15	4	6	1	89	0
5	48	52	26	9	2	63	0
6	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-
8	9	91	74	26	0	0	0
9	11	89	5	57	15	7	16
10	3	97	58	7	29	6	0
11	8	92	3	68	21	8	0
12	55	45	3	44	31	22	0
13	70	30	15	12	0	73	0
14	73	27	0	17	5	71	7
15	71	29	29	31	5	26	9

Information was subsequently collected from managers or senior care team members about whether policies existed around the involvement of animals in each home and the types of activity that were currently undertaken. Thirteen of the fifteen homes supplied information. This is summarized in Table 3.

Table 3. Summary of Animal-related Policies and Activities in Care Homes

Area of enquiry	# of homes (N=13)	Comments
Homes with a written policy about animals	4	One of these related only to need for visiting dogs to be vaccinated.
Homes allowing residents to bring a companion animal with them when they move in	7	All 7 homes assessed whether resident could provide the care themselves and restricted the species but this varied between homes. The range included birds, fish, cats.
Homes allowing residents to adopt a personal companion animal once they are established in the home / or their original companion animal dies	3	Based on an individually derived assessment of resident's ability to look after an animal or agreement of staff / family involvement to support animal care.
Homes that have arrangements for pet loss support	0	
Homes that have staff with specific knowledge of animal care needs	0	
Homes allowing family companion animals to visit	13	Five homes specified that the location of visits was restricted to the public lounge only. No homes had specific arrangements to facilitate the visits or systems to monitor number of visitors.
Homes in which staff are allowed to bring their companion animals into the home to visit	6	Of the 6 homes all permitted staff companion dogs but had restrictions – 2 homes allowed this by arrangement on a staff's work day, 3 allowed this by arrangement on staff's non-work days and 1 home only allowed the proprietor to bring his or her dog.
Homes with organised animal visitors by a recognised organisation (e.g., pets as therapy [PAT])	7	6 homes had a visiting dog at regular intervals ranging from weekly to monthly 1 home had occasional "events" and had a falconry display at the home.
Homes with communal animals living in the home	8	5 homes kept birds 3 homes kept fish
Homes with animals connected with but living outside the home for residents to visit/observe	4	1 had rabbits and chickens 1 had a fishpond 2 encouraged watching wildlife (squirrels & rabbits) as an activity
Home undertakes visits to animals off-site	3	2 homes had visited a local farm 1 home had visited a zoo

Strengths and Limitations of the Study

The sample size of this study is large for a qualitative study and we explored a wide range of views among staff in a mixture of rural and urban care home settings. Attitudes toward animals vary among cultures and countries (Risley-Curtiss et al., 2006), as does the provision of care homes for older people (Testad et al., 2010) and the model of involving animals in health care services (Haubenhofer & Kirchengast, 2006), so the findings may have limited applicability across diverse cultural settings. However, participating staff were representative of different roles within care provision (Table 1) and from several different cultural backgrounds (Table 2), consistent with the workforce profile within care homes in the UK (Luff et al., 2011). Staff selection for involvement in groups was not dependent upon demographic background of participants.

Although demographic information, including ethnicity, gender and first language, was not collected specifically from focus group attendees, this was collected at a whole home level, as part of the wider study, as shown in Table 2, demonstrating the diversity of ethnicities and languages spoken within the participating care homes. Care staff were identified in consultation with the care home manager using a purposive sampling strategy, based upon staff role, pay grades, and length of employment within the care home. The cultural differences in views on the involvement of animals in care homes was not focused on as a topic for analysis for this study. Whilst the authors recognize that this would be a valuable area for future research, this was beyond the scope of the current review. However, given that the care homes, backgrounds, and staffing mix resemble those in the national profile, we suggest that the views and experiences explored within this study may have wider relevance beyond the context of this research and may be applicable to similar care home contexts within the UK.

Analysis

The focus group data were subjected to thematic analysis (Braun & Clarke, 2006). The two authors read each transcript repeatedly to immerse themselves in the data; they then independently separated the data into meaningful fragments and emerging themes were identified and labelled with codes

(Braun & Clarke, 2006). The constant comparison method was used (Glaser, 1978) to delineate similarities and differences between the codes and to develop higher level categories and subcategories. Coding strategies were compared and any differences in interpretation were discussed until a consensus was reached. Theoretical memos were used to record ideas about themes and their relationships as the data collection and analysis progressed.

In reporting the findings, the selection of quotations are labelled by group ID number. All quotations have been made anonymous, group participants have been labelled as "person A, B, C" etc. where there is group conversation, and the names of any participants referred to in the content of conversation have been changed to maintain confidentiality.

Results

Three key themes emerged across the focus group discussions. These thesemes related to the perceived benefits of interacting with animals in care homes, staff attitudes towards animals visiting care homes, and specific issues around residents having personal or communal animals living within care homes.

Benefits of Animals

There was a consensus across all of the fifteen focus groups that having contact with animals conferred important benefits to some residents. Staff spoke with certainty about the pleasure that individuals derived from interacting with a wide range of animals, often recounting their surprise at the positive response that this elicited in residents in advanced, as well as earlier stages of dementia. Participants in group 11 illustrate this:

Person A: "Do you know what I find very good is when Gill comes in with the dogs."

Person B: "A certain resident hadn't been speaking and you should have seen the difference in this person with this dog. It was unbelievable ... she was feeding the dog."

A third of the groups drew parallels between the presence of animals and the presence of children. There was a strong feeling that both children and animals had a positive effect on the emotional state of residents as shown by comments in group 7. "Oh yes, they love animals. ... And if anyone comes in who brings children they love children, you know they love that... . Babies and animals, they love it."

In three quarters of the groups, the presence of animals was positively regarded as a way of promoting interaction by giving opportunities to residents to communicate not only with the animal itself, but by helping staff in their delivery of person-centered care and being a talking point with which to engage with residents and visitors. It was evident that the presence of some animals, for example "visiting owls" in one home, could act as a form of activity that could be enjoyed together.

Two thirds of the groups commented on the opportunities for meaningful activity and occupation by interacting with and caring for animals, including feeding or cleaning activities as shown by individuals in Group 10.

And they go and feed the fish. We have one customer who goes every morning and feeds them. Yeah, he feeds the fish in the pond ... and others come and talk to Joey. (*Laughs*) 'Oh hello, Joey, are you a good boy?' You know. Yeah, it's really nice.

Staff also recognised that spending time with animals allowed some residents to maintain an interest or attachment that had long been an important part of their lives. For example from Group 2:

They enjoyed it, because some of them have always had animals. I've always had animals, I mean I have always had a dog, and I think if I ever got old and got put in a care home I wouldn't go unless they let me have my dog.

Other identified benefits included the sensory pleasure gained through stroking and petting animals and the visual stimulation that some animals can provide, as described in

Group 5:

I was just thinking obviously whatever the activity is, it might be suitable for obviously some of them, whether it's just stroking something like the PAT dog or whatever or whether it's something visual or ... we have the home cat as well. She's allowed to roam anywhere and lays on the beds and they love it, it's a talking point.

One person in Group 8 noted that, "They're fond of the fish. They like the colourfulness, they like the colours of the fish and they go on and see what fish we have there. Yeah they are aware of them."

There was also a propensity among staff in half the homes to suggest bringing their own animals into the home that demonstrated a wish to share further experiences of this sort. One participant in Group 6 shared:

I brought my dog in, ... and they liked that. And she just sat her on their laps because she is little isn't she? She's cute isn't she? I'm biased. But no, I remember Glen, when I sat her on her lap, and she was so excited, although she can't speak.

Animal Visitors

The vast majority of staff expressed enthusiasm about the idea of animals visiting the home. Staff provided examples of positive experiences involving a wide range of visiting animals, including PAT dogs, a "zoo" of exotic animals such as snakes, an "animal farm" involving chicks that hatched in an incubator and were then returned to the farm, falconry and owls, and staff's own animals and family companion animals. As will be discussed, visiting animals were considered to provide the majority of benefits outlined above while presenting few major difficulties to residents or staff.

Benefits without the bother. Including visiting animals in the life of the care home was identified as preferable to communal or personal companion animals in the majority of focus group discussions. In the first instance, the former was regarded as less time consuming for staff.

I'm quite happy with people bringing pets in, it's just as long as they take them out again ... because it's almost like having another resident or two in the home when you have pets in the home ... you've got their whole care plan. (Group 14)

Another perceived advantage was that volunteers, paid employees from outside the care home or relatives would assume responsibility for the behaviour and care of the animal for the duration of the visit.

Suitability of the animals. Although there was enthusiasm for visiting animals, the suitability of the animal for the home remained a key consideration for all groups. PAT dogs were praised in this respect for the animal's predictable, friendly and calm temperament. Controlled behaviour was considered a valuable asset in the care home context, as demonstrated in a conversation in Group 2.

Person A: "It is interaction and it's all been professionally done where the dogs have special..."

Person B: "Well, training, and they've watched it respond to people to see whether it is aggressive or would it mind having its ear pulled. It's got to be very calm, it's got to be a passive dog that will put up with anything and it's a lovely little, is it a King Charles?"

In eight of the fifteen groups, staff expressed a wish to bring their own animals to the home. However, there was also recognition that both their own companion animals and colleagues' animals were not assessed for suitability and as such may not meet the standards that staff considered necessary for safe visiting. This was evident in a discussion in Group 4 about a colleague's young dog.

Person A: "She's huge, yeah, and I think because she's still a puppy, and she bounds around like a little donkey, bless her."

Person B: "Grabbing all their toys."

Person C: "Yeah and their skin's so fragile, as well, that if she does jump up, you know."

Person A: "I'm frightened she's going to knock them over because she just comes bounding over. ... She's quite intimidating ... She's not trained."

Similar issues were raised with regards to family animals visiting. It was felt that there was a lack of clarity about who could visit, and a lack of assessment of the animal's suitability, which could give rise to problems. For example, in Group 1, a situation with a previous resident was discussed, "... her husband used to bring the dog in, didn't he? all the time until it started weeing on the floor."

Ease of access and clarity of procedures. For some staff, the perceived benefits of animals were offset by uncertainty or apparent difficulties in coordinating the visits. Participants often appeared confused about how best to contact and arrange for therapy dogs to visit, how to increase the frequency of visits and, in some instances, uncertainty about the regularity with which dogs currently visit the home. This reflected a lack of clarity about policy and practice that often seemed to exist between "the home" and visitors and staff with animals. Staff thought this confusion extended to families, who were sometimes unaware that they could visit with animals unless they had asked specifically. Some staff groups were unsure about who needed to give permission for visits. There was a general lack of awareness about when and where in the care home visits could take place and who was responsible for monitoring this.

Staff added that there were significant financial costs attached to arranging certain animal visits (e.g., the zoo, animal farm) that could be prohibitive. Conversely, bringing in one's own animal represented a comparatively cheap option that was easily arranged.

Health and well-being. The potential negative impact of an animal's presence on people's health was occasionally recognised. For example, staff in Group 9 discussed the need to address the allergies and preferences of certain residents who did not wish to have contact with animals. However, the majority of participants in this group were confident that these

considerations could be managed and they were able to provide examples of where this had been achieved.

There was one lady, I think she's still here. I don't remember, we couldn't take the dog down that end because she had an allergy. So that was fine, you know, so you just accommodate for that, you know, so there's no problem.

Animals as Residents

Animals as residents emerged as a contentious topic, which on occasion led to heated discussions around the feasibility of animals living within the home. There were no residents with their own companion animals living in any of the care homes at the time of the research, although three of groups could identify previous residents who had brought a cat with them on admission. Two thirds of the homes currently had communal animals including cats, fish, chickens, birds, and rabbits. As previously discussed, staff identified therapeutic benefits to spending time with animals and recognized that having animals had been a major part of some residents' lives, which was therefore important for continued well-being. However, there was also widespread concern about the implications of resident animals for "health and safety," staff workload, and the impact on other residents within the home. Some staff in each of the groups challenged these views and suggested that these issues could be circumvented with a degree of leadership, planning, and commitment among the care team.

Uncertainty about policy. A common argument was that home policy prevented personal or communal animals living within the home. However, further exploration of their understanding of care home policy revealed uncertainty about its existence and details. Staff themselves began to question what might underpin the widespread assumption that including animals was not be possible. For example, in Group 4 staff thought there were risks of keeping fish, but were unclear about what these were.

Person A: "I don't know what it is about fish though with Health & Safety."

Person B: "I think if they put their hand in it and try and eat the fish."

Person A: "Yeah, something like that, I heard from somebody, I don't know."

It was striking that concerns about "health and safety" were frequently cited in all the groups, yet were poorly defined. This was often presented as a default response that negated the need to consider the topic further. In addition to the uncertainty about policies, there was also a lack of clarity and identifiable leadership in developing this work. Most groups suggested that decisions were at the manager's discretion, but only Group 1 was able to elaborate upon how this might work in practice.

I think they can say on their [pre-admission] assessment whether they have any animals and if they're assessed as house animals and stuff like that, they can sort out that they bring their animals in. Like the lady had a cat. Dogs are a bit ... I think they would be slightly different because obviously they need walking and stuff. But yeah, that's all up to [the manager] really.

This group also thought the involvement of relatives was key to successful inclusion of animals, both to supporting any program and to avoid misunderstandings.

Someone phoned the [Animal Rescue Centre] about it, saying something like they have got a cat and it's not right that they have a cat in a care home, stuff like that. I think it was another resident's family saw this cat and didn't agree with it.

The lack of written policies relating to animals' inclusion in the homes was confirmed by the information supplied by managers (Table 3). Less than a third of homes had any kind of written policy, and although half the homes reported that, in principle, pre-admission assessments were possible to allow residents to bring their companion, none of the homes reported having staff who had any specific knowledge of animal

care needs, so assessments relied on the views of the assessing manager. All of the homes which supplied information allowed family animals to visit, with a third limiting this to the public lounge and others having no guidance about how to arrange or conduct visits. Half the homes allowed visits from recognized organizations, but less than half of these had any home policy relating to this.

Planning and extra work. There was agreement that the inclusion of communal animals within the care home required a responsible approach. The focus groups highlighted a need for planning and discussion with staff ahead of implementation, with clarity about job roles or engagement of professional services to provide animal care. "You do not do anything until you've thought out every aspect of it. You do not come along and say that I am going to do this until you have thought out every single aspect of that." (Group 11)

Another prominent theme across the focus groups was that some participants disliked or were apprehensive about the additional work that caring for communal animals could entail. Staff listed obligations such as feeding, cleaning and exercising animals, which were often seen to involve unpleasant jobs such as going outside in the cold or removing animal droppings from fish tanks or cages.

You get agency staff, do they know? Are they going to be told that the chickens have got to be fed outside? When there is a thick snow on the ground like that, and they can't go out there, who's going to feed them? (Group 11)

As a consequence, the suitability of an animal was primarily assessed in terms of the level of care that it required. Animals perceived as having clean habits or those that were perceived to be "low maintenance," such as caged birds or cats, were considered preferable in this context.

Enthusiasm and individual responsibility. In the absence of clear policies, the inclusion of animals as residents was largely dependent on the enthusiasm and responsibility of individual staff members. This was a priority for some, in particular those staff members who had their own animals and fully appreciated the pleasure that they could confer. Successful involvement

of animals was identified where individual staff members volunteered to provide the necessary care themselves. A small number of focus groups also described occasions where even though there was some role definition, the responsibility was shared among the staff team.

Moderator in Group 5: "Who cares for the cat?"

Person A: "We all do."

Person B: "Yes, she spots the uniform and that's it, she wants feeding."

Person C: "... I always have to take it to the vet."

However, the potential for animal neglect was seen to arise when staff were reluctant to assume this responsibility, as described in Group 14.

The rabbits were a whole issue weren't they? ... because they were outside, so you had to get residents outside and take them inside and staff had to go and clean them, and clean the cage and only certain staff would do it and [*mimicking a colleague*] 'I don't really like rabbits,' so those things, so it became a bit of a problem ... and then once, some time they had forgotten, and they weren't fed.

Some of these staff argued that caring for animals was "not their job" and could in fact distract from the care of residents. Participants joked that resident animals required their own care plan and as such placed unreasonable demands on their time. In these instances, animals were only considered an option in the home if the resident or a relative was able to provide the necessary care themselves. The information supplied by managers (Table 3) confirmed that none of the staff were employed with specific knowledge of animal care and may suggest that animal-related activities and support for animal care is not formalized as a priority in organizational thinking.

Resident choice. One issue that was frequently raised across the focus groups was the negative impact that communal animals could have on particular residents who were at risk

of being disturbed or distressed by their presence. Concern about residents' choice was more evident in relation to animals as residents than it had been for visiting animals, with perceived difficulties relating to potential allergies, dislike or fear of animals. These concerns often pertained to space and the challenge of restricting the movements of animals within the home.

Like you said, if someone did not like dogs, and you know they've got one in the room next to them, they are not going to like that. (Group 15)

And where do you feed it? You know, who does make sure it's not got locked in a bedroom overnight or in someone's en suite bathroom? It's a difficult one, and if you've got two people sharing a room and one wants a pet and the other one doesn't, I think it would cause more problems. (Group 6)

Despite examples of times when residents' companion cats and communal cats had lived successfully as part of some of the homes, other species such as fish, birds and other contained animals were mostly considered to be a more feasible option as animal residents.

Discussion

The overwhelming view of focus group participants was that involving animals was of benefit to some residents and that this should be facilitated to ensure residents' choices and preferences were respected. However, a number of factors were seen as barriers to developing programs in care. These included the lack of clear policies regarding animals in homes and generally poor definitions of the roles and responsibilities of staff in relation to animal care. Goodwill on the part of individual staff and family members was seen to be the greatest current enabler of programs being put in place and sustained. There was widespread awareness of the need for program planning for animal interventions and some means of assessing animals' suitability for the setting in terms of temperament and care needs. However, none of the homes had

a well-defined assessment process, and the participants had limited knowledge of the factors they would need to assess to ensure safety of both people and animals.

Implications for Involving Animals in Care Homes

There is enthusiasm from home staff to involve animals in care home life. The development of a systematic practical framework to guide care is needed to enable this to happen more consistently. In the USA, materials and templates outlining organizational and visitor responsibilities are available from, for example, Pet Partners (formerly Delta Society, 2003), as part of a well regulated program in which animals and their human partners are assessed prior to visiting and re-evaluated routinely. The materials provide both general guidance and some specifically tailored to particular settings. Other sources of general guidance about the principles to be included in working with animals in care settings, developed from work in the USA, which include the organisational issues to be addressed—considerations about staff and client involvement, animal selection, cost effectiveness, liability, outcomes and infection control—are helpfully summarized by Mallon, Ross, Klee, & Ross (2010). Specific recommendations for animal inclusion in the care of older people highlight the need for clear lines of responsibility for the planning and organization of this work and the need for staff to adopt additional responsibilities in relation to animal welfare (Baun & Johnson, 2010). The themes identified in our findings provide support that these areas are of key importance in supporting staff in practice.

As previously noted, the cultural differences between services (Haubenhofer & Kirchengast, 2006; Testad et al., 2010) means that templates designed in one country are not always applicable in another. Whilst similar broad areas of guidance have been developed in the UK to provide principles for developing practice (Ormerod, 2005), specific detailed information in the form of policy templates for methods to ensure animal welfare are currently lacking for work in the care home population in particular.

It can be useful to draw on information available in different settings, for example, guidance targeted at more general housing providers (Pet Advisory Committee, 2010), which

includes recommendations about species suitability, policy templates, common animal management issues, and legislation. However, our exploratory study highlights that different service settings also have specific policy and staff education and support needs. The barriers that staff perceived to including animals in care homes in this study differed from those in sheltered housing facilities reported in McNicholas (2008), which were predominantly around disease transmission and staff's limited knowledge of animal welfare. There were some similarities to perceived barriers in an older people's mental health setting (Fossey & Barrett, 2006), where key themes were about additional work for the staff and the impact on other patients who didn't like animals. In the mental health setting, a wider range of animals were deemed suitable than were in this care home study, and there was greater clarity in the hospital setting about how visits could be conducted appropriately—possibly reflecting this work setting where, culturally, risk management and infection control form a prominent part of daily practice.

Information about infection control may be a topic area which is more applicable across settings. Guidance outlining control policies and procedures (Lefebvre et al., 2008) is published in an academic forum and is therefore likely to have a lesser impact in the care sector. This information needs to be more widely disseminated to those including animals in their care services to improve knowledge and promote good practice. Our study reinforces the need for increased information and knowledge for staff involved in care. In addition to clear guidance in policy development and defining specific roles and responsibilities relating to animal inclusion in care homes, there is a need to have protocols in place for the care of different species. Currently many guides focus on only one element of practice. Our findings suggest that there are setting-specific requirements for information, and we suggest that bringing guidance together into an easily accessible and practical format would be helpful. We are now developing this approach to focus on both the human and animal welfare issues guided by staff feedback about the factors that help and hinder their practice (Fossey, *in press*).

Conclusions

This study illustrates that although staff recognise some significant benefits to involving animals in care home life, a number of practical factors influence the inclusion of animals as either visitors or residents within the homes. Staff suggest that greater clarity is needed in specifying responsibility for the setting up, monitoring, and care of animals in any programs and that resident choice and animal suitability for the environment in which they are included are key to success.

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Addendum, Sample of Focus Groups question prompts.

Facilitator mindful to use questions only when topics did not develop through the group conversation and ensure opportunity for feedback of each are:

Do you have animals come to this home? (species, types of visitor–family, staff, volunteer, resident, wildlife)

How do residents respond to this? (ways they are involved, benefits, difficulties)

Would you do it again? / Do you think it's something that would be considered here? (and why?)

Are residents able to bring their own pets? How does this work? (are there policies and how does this work in practice?)

Are there any animals that staff take care of here? How does this work? (are there policies and how does this work in practice?)

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